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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY.

EDITED BY

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WITH THE CO-OPERATION OF PROFESSOR E. B. TITCHENER, AMERICAN EDITORIAL REPRESENTATIVE, AND OF PROFESSOR WARD, PROFESSOR PRINGLE-PATTISON, DAVID MORRISON, M.A., AND OTHER MEMBERS OF AN ADVISORY COMMITTEE.

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MIND

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I.—REPLY TO MR. JOSEPH.[1]

By G. F. Stout.

I have, for some time, been aware of serious faults in the account of the perception of external objects given in my *Manual* and *Groundwork*. But I trace these faults not to any vital error in fundamental principles, but to a failure to follow out my own principles faithfully and accurately. Mr. Joseph, on the contrary, alleges that there is a radical vice in the presuppositions which are, in his opinion, common to me and to all psychologists as such. The primary assumptions which he ascribes to me in common with all psychologists are twofold:—

(1) That the mind starts with a separate knowledge of its own sensations only, and subsequently passes by a distinct and additional process to the apprehension of external things; (2) that the supervening process of transition from sensation to sensible things depends merely on such psychological laws as those which are exhibited in "association of ideas".

Now, I admit most readily, that such a view is untenable, and that if it were really my view, Mr. Joseph's criticism of my work would be entirely cogent, but I disown both the positions which he ascribes to me. As regards the first, indeed, he is so far right, that I do assume in the *Manual* and in the *Groundwork* the existence of certain sense-experiences which do not of themselves involve the apprehension of sensible things. The reason is that when I wrote these books, I regarded the awareness of "external" existence as distinctively conditioned, not by all sensations, but only by a certain

[1] See Mind, N.S., Nos. 75, 76.

class of sense-experiences, which alone exhibit a special form of contrast between felt passivity and felt activity. But I certainly did not say or think that the sense-experiences having the required character are or can be separately apprehended, so as to demand or even to admit of a further process of transition from sensation to external object. On the contrary, the view indicated is that, from the outset, experiences fulfilling the assigned conditions necessitate by their nature the assertion of external existence. This is the position of the *Manual* and *Groundwork*. In my later writings, I give up the view that there are sensations which do not involve this objective reference: thus my final position is that some apprehension of external existence, however vague and rudimentary, is indivisibly bound up with all sense-experience.[1]

In rejecting the first of the fundamental assumptions which Mr. Joseph attributes to me, I, of course, also reject the second. I may add that I should still continue to reject the second even if I saw reason to accept the first. Even if I began by supposing the mind to be initially confined to the circle of its own sense-experiences, and then attempted to assign a supervening process leading to the knowledge of existences lying outside this circle, I should never expect to find the required conditions in merely psychological occurrences as regulated by merely psychological laws. I cannot imagine myself embarking on any such undertaking without at least presupposing as part of the initial equipment of the growing mind the principle of causality or sufficient reason.

Mr. Joseph has, it would seem, profoundly misunderstood my general philosophical position, and the misunderstanding necessarily extends to my view of the nature and aim of Psychology. But I must hasten to add that this general misapprehension does not wholly destroy the point and value of his special criticisms of my account of the development of the perception of the external world. On the contrary, I am pleased to recognise that in part, at least, his objections are well founded, and that they bring to light important defects in my treatment of this subject, of which I have become increasingly sensible myself for some years past. What I have to urge in reply is that his strictures are only partially relevant, and so far as they hit the mark they reveal, not so much inadequacy or error or deficiency in my general principles, as a failure to apply them faithfully. As regards the misunderstanding itself, I am far from asserting that the fault

[1] See my paper on "Things and Sensations," *Proceedings of British Academy*, 1905-1906.

lies wholly with Mr. Joseph. I am myself in part responsible, inasmuch as I have allowed myself to be influenced by the fashionable prejudice against introducing general philosophical discussion into a text-book of Psychology—against what is called "mixing Psychology with Metaphysics". If I had been addressing myself especially to readers such as Mr. Joseph, I should have adopted a different course. This applies mainly to the *Manual* and *Groundwork*, not to the *Analytic Psychology*, and not to my more recent writings.

I shall now proceed to sketch in broad outline my general view of the nature of knowledge and to show how this determines my view of the special function of Psychology as a department of Philosophy; I shall then consider the application to the special psychological problems connected with the perception of external objects as existing in space independently of their being perceived.

My fundamental position is closely akin to that which Kant expressed in the maxim, "Thought without sense is empty, and sense without thought is blind". In my own language, I recast this formula as follows: All knowledge includes in inseparable unity two correlated elements, the experiencing of presentations and the thought of objects. By presentation I mean whatever is or may be existentially present in consciousness as a toothache is present in the moment in which it is being actually felt, or as a sound-sensation is present in the moment of actual hearing, or as a colour-sensation is present in the moment of actual seeing. What is thus existentially present at any moment is, in the strict sense, experienced and may be called an experience. Whatever is not thus existentially present, though it may be known through experience, is not itself experienced at the time at which it is known. The mind has cognizance of it as something thought of, not as something actually present. It exists *for* the mind, but does not exist *in* the mind.[1] Thus, future, past, and merely possible presentations can only be thought of, not actually experienced, in the present moment of consciousness. On the other hand, an actual presentation may also be object of thought in so far as it is apprehended as related to what is not existentially present at the moment, *e.g.* the continuance of its own existence from the past and into the future. When I think of a future or past visual presentation by means of a present mental picture, the mental picture is actually experienced, and the future or past

[1] The old Berkeleyan phrase "to exist in the mind" seems to me useful and convenient when its meaning is defined in this way.

visual presentation is merely thought of: but the mental picture may also be implicitly thought of as meaning the future or past presentation. It is thus an object of thought as well as an actual experience. Similarly the present phase of the mental picture itself is an object of thought inasmuch as it is apprehended as a transition between past and future phases, which as such are not existentially present in consciousness. Thought, then, as distinguished from presentation consists in the awareness of whatever is not at the moment an actual content of experience, or in the awareness of what is actually experienced as related to what is not so experienced. The object of thought as such is whatever the mind *means* or *intends;* presentation is what exists in the mind, and is not merely meant or intended by it. All knowledge, as I began by saying, seems to include in inseparable unity the experiencing of presentations and the thought of objects. These two constituents of all cognition are correlated in such a way that thought gives meaning to presentation, and presentation specifies the direction of thought. What it is that the mind means or intends at any moment depends on its actual experience at that moment; but if it were confined merely to the actual experience it would not mean or intend anything. Presentation without thought is blind; thought without presentation is empty. Memory supplies a good example. In remembering a past event, the remembrance is conditioned by the specific nature of our actual experience at the moment. But the past event as the mind means or intends it is not an actual experience at the moment. Nor is there any distinct step of transition from the present experience to the past event. There is only one indivisible cognitive act in which we may by analytic reflexion distinguish two inseparably correlated elements, the thought of the past event, and the specifying content of actual presentation by which the direction of thought is determined. For every variation or difference in the specifying content of presentation there is a corresponding variation or difference in the nature of the object of thought. This may be expressed by saying that the specifying content *represents* the object. But in using such language we must be careful to distinguish this primary representative function from other forms of representation. In other forms of representation one object already known is regarded as representative of another object already known. A map, for example, is regarded as representing the relative position and distance of places, or the motion of the hands of a clock is regarded as representing the lapse of time. But the specify-

ing function of presentation is involved in all awareness of objects. Other forms of representation are therefore derivative from this and presuppose it. It may be used to explain them, but they cannot be used to explain it. For this reason it would be well if we could conveniently express the distinction by using different words. I should like to say that the object determined by the specifying content of the presentation is *presented* not *represented* by the presentation. According to this usage, when a presentation itself is said to be presented, this would merely mean that it exists as a presentation, *i.e.* that it is existentially present in consciousness. When an object is said to be presented, this would mean that thought is directed to this special object rather than to any other through the special content of a presentation. But the double use of the terms "presentation" and "presented" is a serious objection to this proposal.[1]

The foregoing account of the general nature of knowledge is still essentially incomplete. I have as yet omitted a point of fundamental importance. I have referred only to a plurality of distinct objects each determined for thought by correspondingly distinct presentations. But the scope of thought is never confined to such special objects, or to any collection of them however extensive. Whatever may be the special items with which the mind is occupied at any moment, they are never apprehended as absolutely self-complete and self-contained. They are always apprehended as partial constituents of a whole which includes and transcends them and as connected with other unspecified constituents of the whole. Further, the whole is for thought always one and the same. It is what we call the Universe. Whatever special objects are directly presented (represented), the universe is indirectly presented as their necessary continuation and completion. Thus the universe, or as Malebranche used to say, "being in general," is the universal object of all thought as such. But the special items which from moment to moment we distinguish within the unity of the universe depend on presentations, as they come and go in the individual mind. Similarly the special objects present to different minds vary according to the varying nature of the presentational material which each acquires in the course of its life-history. But all apprehend the same universe. Each, as Leibniz says, "mirrors" the universe from its own point of view, and its point of view is conditioned by the distinctive character of its own individual experience. As the total

[1] The double use would almost inevitably expose me to the charge of equivocation.

object of all thought is the universe in its unity, the development of knowledge has always two distinguishable but inseparable aspects. On the one hand, it consists in a more and more extensive and intimate acquaintance with special features of the whole and their modes of interconnexion. On the other hand, it consists in increasing insight into the general nature of the unity of the universe, leading progressively to fuller, more definite, and more accurate apprehension of certain universal structural principles, which may be called categories. These two aspects of the development are interdependent. The categories may, in a sense, be truly described as *a priori* forms of thought, or rather of the object of thought, *i.e.* Reality. But this must not be taken to imply that our knowledge of them is definitely fixed, complete, and infallible from the outset. On the contrary, our apprehension of these universal principles grows, in definiteness, fullness and correctness, with the growth of the detailed knowledge dependent on special experience. At the same time the detailed development is throughout conditioned implicitly or explicitly by the categories, inasmuch as these control the direction of selective attention, retention, and reproduction and the processes of productive imagination by which presentational material is moulded in accordance with the requirements of thought.

Such being the general nature of knowledge, it is possible accurately to assign the precise scope of the psychology of cognitive process. Psychology investigates the development of knowledge as conditioned by presentations and by the gradual acquirement and elaboration of presentational material in the individual mind. It is therefore concerned with such factors as attention, retentiveness, reproduction, association, and also, though less directly, with the physiological conditions of sensation and movement. For instance, it is a psychological problem how the fact of our having perceived a thing makes it possible to think of it again when it is no longer perceived; and the psychological answer consists in assigning the conditions of the occurrence of a presentation so connected with that which originally specified the thought of the object as to fulfil an equivalent function in again determining the direction of thought to the same object. Similarly as regards the problem with which we are at present occupied, the psychological questions which emerge are the following: (1) What are the presentations which determine for thought the existence and nature of a material world? (2) What is the primary significance of these presentations as determining the original apprehension of

external reality which is presupposed in all subsequent developments of it? (3) Wherein does the subsequent development consist as conditioned by elaboration of presentational material through attention, retention, productive imagination, etc., under the guiding control of the original thought, and also of certain fundamental categories which themselves become more fully and explicitly and accurately known as the process advances?

The answer to the first question seems plainly indicated. From beginning to end, it is through *sensuous* presentations that we are conversant with an external world. In particular, apprehension of this world as a whole of parts coexistent in space seems dependent on the extensive character of certain presentations, more especially those of touch and sight. I do not indeed say that the thought of a universal order of existence is itself accounted for by sensuous presentation. On the contrary, I regard this as a category—a pure concept in the Kantian sense.[1] But here as elsewhere thought without sense is empty. The pure concept of an order of coexistence is in itself a mere blank form. To constitute even the most rudimentary apprehension of extension in space, it must be specified and determined by the immediate content of sensuous presentation, and the sensuous content which primarily fulfils the function is the extensiveness of visual sensations and touch sensations. Mr. Joseph appears to find great difficulty in the conception of an extensive character belonging directly to sensuous presentations as such. But his objections seem all to hinge on the assumption that the parts of the extensive quantum are distinguished by the qualitative differences which have been called local signs. This however is merely a hypothesis which may very well be false.[2] What, from my point of view, is important is not the hypothesis but the fact which it is intended partially to explain. The essential fact is that colour presentations and touch presentations both as actual sensations and as images retained or revived, are diffused in a continuous quantum within which it is possible to distinguish parts outside of each other, beside each other, and between each other. A peculiar significance attaches to this distinction of the extensive parts of sense presentation inasmuch as it marks for thought the coexistence of distinct things as subjects of qualities, states, and

[1] I have failed to make this explicit in my account of the development of spatial perception. But, evidently, it meets many of Mr. Joseph's difficulties.

[2] I think that Mr. Joseph's arguments constitute a strong though not a conclusive case against it.

processes, and not merely different states, processes, and qualities of the same thing.

Our second question concerns the general nature of the reality which thought apprehends on the basis of sensuous presentation.

Sensuous presentations determine the thought of something which transcends their own existence: what is this something, and how is it connected with the presentations themselves? We may dismiss, at the outset, the Berkeleyan view that what each presentation signifies is the past, future, or permanently possible occurrence of other presentations within the experience of finite individuals. It is impossible to resolve what we know as the material world, or anything which we recognise as a material thing, into groups or series of actual and possible sensations emerging within the experience of individual percipients. What is required is the thought of a domain of existence containing parts which persist, change, and interact, independently of the coming and going of sensuous apparitions in the consciousness of finite individuals. On the other hand, we must set aside any view which regards this realm of independent existence as radically disparate in kind, or as discontinuous in existence with the presentations through which we, as thinking beings, are conversant with it. Such assumptions are irreconcilable with the ineradicable presupposition of ordinary consciousness that what is immediately given in sense experience is itself matter, and not merely a symbol of matter. Such assumptions also seem to preclude the possibility of accounting for the development of our detailed knowledge of material things and processes in their systematic interconnexion. For every step in this development presupposes the possibility of a thorough-going correspondence between distinctions and relations within the immediate content of sensation and distinctions and relation within the realm of material existence with which thought is conversant by means of sense-experience. This thorough-going correspondence seems inconceivable if the sensuous signs are regarded as fundamentally disparate in nature or discontinuous in existence from what they signify. I feel bound, therefore, to reject the Kantian doctrine that matter as it is in itself is so completely heterogeneous from anything which we immediately experience as to be absolutely unknowable. For the same reason, I feel bound to reject monadistic theories which regard matter *per se* as consisting in a collection of individuals each having a sort of individual unity, essentially analogous to that which characterises the human self as a thinking and willing sub-

ject. The material world as something known through sense-experience must itself be like sensuous presentations themselves, a divisible stuff and not a collection of indivisible units. In a word, it must be matter and not mind.[1]

Thus I agree with common-sense and with the new realists as represented by Mr. Moore, in affirming that what is existentially present in consciousness in sense-perception is matter directly apprehended as it is itself. Only I must insist that what is existentially present both is and is thought as being partial and fragmentary. For thought, it signifies its own continuation and completion in a whole which transcends and includes it.

I have now assigned the general presuppositions which I postulate as necessary and sufficient for the solution of our third problem, concerning the detailed development of our apprehension of external objects. As yet we are barely on the threshold of this problem. So far as we have yet proceeded, our position is as follows: (1) There is a realm of real existence apprehended as being of a piece with the immediate content of sense-experience. (2) Difference, relation, and change within the content of sense-experience is thought as continuous with correlated difference, relation, and change in this external reality. (3) In particular, distinction and relation within the extensity of visual, tactual, and other extensive presentations signify distinctions and relations of things, as subjects of states, processes, and qualities, as contrasted with qualities, processes, and states of the same thing.[2]

But beyond this all is initially dark. The realm of external existence is an indefinite background penetrated only at the tiny loophole where it is confluent with our sense-experience. Between this primitive awareness of external reality and our developed apprehension of the material world, there is an immense gap which requires to be bridged. We have to show by what steps we reach out beyond our immediate sensuous communication with the realm of external existence, and, piercing its depths, apprehend it as an arti-

[1] On this point, my views have undergone a radical change. I have gradually come to realise that even the wonderful constructive ingenuity of Leibniz and Lotze cannot make a monadistic theory of matter really tenable. I may add that if matter really consists in monads, Leibniz seems to be right in holding that they can have no "windows".

[2] It is to be noted that the discernment of distinction and relation within the content of sense-experience only emerges gradually, and the processes of its development have to be traced. In my account of the development of spatial perception, for example, I lay much stress on this aspect of the psychological problem.

culate system of definitely distinguishable parts persisting, changing, and interacting according to uniform laws,—persisting, changing, and interacting independently of the vicissitudes of that very sense-experience which is, from beginning to end, the indispensable basis of the whole development. Especially, we have to show how it is possible to reach a position from which we can return upon sense-experience itself, and assign what are called its physical and physiological conditions; a position from which we can regard the stream of our sensations as one train of occurrences among others, arising in direct and unconditional connexion with certain processes in a part of a small portion of the material world which is known as our nervous system, and related to other material things and processes only if and so far as they, more or less directly, affect, in certain ways, the state of this little bit of matter. To a very large extent the process of development through which this articulate knowledge of the material world is attained, consists in ideal construction. But the first steps must be taken at the perceptual level in order that ideal construction may have a basis from which it can start. For instance, it is at the perceptual stage that we learn to correlate different sensory data, and especially data belonging to different senses, as meaning different attributes of the same thing,—that we learn, for example, to identify an object as apprehended by touch, with the same object as apprehended by sight or hearing or smell.[1] Further, it is at this stage that we come to attach an identical significance to varying sensations not merely as meaning the same thing but the same unchanging attribute of the same thing. An obvious example is the way in which visual presentations, incessantly varying in magnitude and shape, are none the less interpreted as signifying a constant size and shape of the thing seen. But in principle the like holds good for touch which varies with the part of the tactile surface used and also with other conditions. This same problem is raised in another and a less psychological form when we inquire how it is that the determinate objects of sense-perception affect our sensibility only indirectly through a long and complex series of intermediate processes. For it is variation in the intermediate conditions which determines variation in the final sensation, and consequently in the concomitant brain process.[2]

[1] *Cf.* chap. viii. of my *Groundwork of Psychology*, pp. 72-77.

[2] I say "in the final sensation and consequently in the concomitant brain process". I do *not* say "in the brain process and consequently in the concomitant sensation". I shall presently explain what may appear to be a putting of the cart before the horse.

Questions such as these inevitably confront us whatever may be our views concerning the nature of matter, and the mode in which we perceive it. For, on any view, it remains undeniable that only a very small portion of the material world, as we know it, is or can be given in immediate experience. In the main, our knowledge of it is a thought-construction on the basis of presentational data, involving, at every step, psychological processes of attention, retention, association, reproduction, and productive imagination. As regards my own attempts to grapple with problems of this kind, I am quite prepared to recognise their inadequacy. There are certainly important points which I have omitted or failed to emphasise duly. On the other hand, I cannot see that my general line of procedure is wrong: and I am not prepared to admit that my special explanations are substantially irrelevant or erroneous. These may require to be modified or supplemented; but they do not, as far as I can see, require to be rejected. It may be that I am to be blamed for not having explicitly assigned the fundamental presuppositions regarding the nature of knowledge and reality, which, from my own point of view, underlie my own procedure. But I have to plead in excuse that a text-book of Psychology is generally regarded as an inappropriate place for "metaphysical" discussions of this nature. I have also to urge that in some of my writings which are unnoticed by Mr. Joseph I have done something to supply this deficiency. In my *Analytical Psychology* I have expounded my view of the inseparable correlation of presentation and thought in essentially the same form in which I continue to hold it.[1] Further, since the publication of the *Groundwork*, I have written various papers, bearing, more or less, on the general nature of knowledge, in the *Proceedings of the Aristotelian Society* and elsewhere.[2] It would be quite unreasonable to expect Mr. Joseph to have gathered together these scattered productions and read them in connexion with each other. All I say is, that if he had done so, he would probably have avoided essential misunderstanding of my fundamental position.

[1] This view is substantially identical with the doctrine of *Inhalt* and *Gegenstand*, which has since been developed by Meinong, Lipps, Witasek and others.

[2] *E.g.* "Things and Sensations," *Proceedings of British Academy*, 1905; "Immediacy, Mediacy, and Coherence," MIND, vol. xvii., N.S.; "Mr. Bradley's Theory of Judgment," *Aristotelian Proceedings*, 1902-1903; "New Kantianism, as Represented by Dr. Dawes Hicks," *ibid.*, 1905-1906; "Are Presentations Mental or Physical?" *ibid.*, 1909-1910; "The Nature of Conation and Mental Activity," *British Journal of Psychology*,

To meet completely his special criticism, I ought to cover again the whole ground in detail, supplying what I now regard as deficiencies, and rectifying inaccuracies. But I have not time to do this in the present paper. What I have here written will have served its purpose, if it has made clear my general philosophical presuppositions, and if it has shown that these are radically different from those which Mr. Joseph attributes to me, and to psychologists in general.[1] To make my general position still more clear, I shall add in conclusion three more points which seem to me to be involved in it. In the first place, it involves a thorough-going distinction and contrast between matter as it is in itself and matter as it is phenomenally known. Only the extremely partial and fragmentary aspect of matter which existentially enters the consciousness of finite individuals as sensuous presentation or apparition is directly apprehended by them as it is in itself. Our knowledge of the material system as a whole and of its laws is phenomenal; it is a thought-construction on the basis of sense-experience. All that we call "external" or "physical" objects, processes and laws belong to the phenomenal order. On the other hand, sensuous presentations as such do not belong to this order. They are not in phenomenal space which is fully occupied by phenomena, and they do not obey such laws as that of gravitation.

The second point is closely connected with the first. If, as I maintain, the individual has in his own presentation-continuum a partial glimpse of the existence and nature of matter as it is in itself, it would seem to follow that this portion of matter *per se* must be also capable of being phenomenally known to an external observer as a physical object. We are thus confronted with the question: What is the phenomenal counterpart of sense-experience? The answer to this question seems clearly indicated by the apparently unconditional correlation of the existence, nature, and changes of sensuous presentations with a certain system of processes in the brain. The brain, so far as it is implicated in these processes, is identical with our sense-experience as phenomenally known. If this be so, Spinoza is in principle right in regarding the mind as primarily the idea of

1906. I may also refer to my recent paper on "Instinct and Intelligence," *ibid.*, October, 1910.

[1] Really it is a mistake to suppose that psychologists as such have any philosophical principles in common. What I have said in the *Manual* and *Groundwork* about the perception of external objects may be accepted by psychologists who would reject my account of the philosophical position implied; or again, it might be rejected by psychologists approaching closely the type described by Mr. Joseph.

the body, and of other material things only in so far as they affect the body.[1]

And Spinoza also supplies the right answer to the objection that we have no immediate awareness of our own brain processes. "We clearly see what is the difference between the idea, for example of Peter, which constitutes the essence of the mind itself of Peter, and the idea of Peter himself which is in another man, for example in Paul. For the former directly manifests the essence of the body of Peter himself, nor does it involve existence so long as Peter exists; the latter, on the other hand, indicates rather the constitution of the body of Paul than the nature of Peter; and therefore so long as Paul's body exists with that constitution, so long will Paul's mind contemplate Peter as present, although he does not exist."[2]

The third point arises in connexion with the question concerning the relation of sensuous presentations to the mind which experiences them. I have always held with Berkeley that sensuous presentations are sharply contrasted with such states and processes as willing and attention, loving and hating, which belong to the individual subject in his indivisible Unity and Identity. But I have also consistently asserted the other Berkeleyan position that sensations, though they are not, like attending and willing, modes of the individual consciousness as such, are not the less mind-dependent, inasmuch as they exist only in being experienced by some one. I am, therefore, bound to explain how I can assume that the presentation-continuum of the individual is continued beyond itself into a whole of fundamentally like nature which transcends and includes it. The only solution of this problem which I can find is one already suggested by Berkeley, though not developed by him in any coherent way. It is that presentations which do not exist in my mind exist in other minds. Further, it is not enough merely to postulate a collection of finite minds or "monads," even though we permit ourselves to multiply these *ad libitum* like Leibniz and Lotze. For the confluence of the presentational content of our monad with that of others would still ultimately fall outside the experience of the finite individuals. I therefore posit an omnipresent mind as experiencing the whole presentation-continuum which is shared out to finite individuals in partial allotments.

[1] I am throughout leaving out of count our knowledge of other minds, and sensations as experienced by other minds. This requires a separate discussion.

[2] The quotation is from *Ethics*, Bk. ii., Prop. xvii., Schol. (White and Stirling's translation).

In conclusion, I have to apologise for the extremely egotistical style of this paper. The apparent egotism is not due to any desire on my part to assert or imply originality. Very probably there is nothing in what I have said that is really new. But except in the case of Leibniz, Spinoza, Kant and Lotze, and my own teacher, Dr. Ward,[1] I find it difficult to determine precisely what and how much I owe to others, and to determine wherein precisely I agree with them, and disagree from them. Hence, to avoid complications, I have, for the most part, thought it best to speak as if I were speaking for myself alone.

[1] I would refer to Dr. Ward as the source of everything in my writings which he would not himself disown. But this is a large exception.

II.—THE PHILOSOPHY OF BERGSON.

By J. Solomon.

The central idea of Bergson's philosophy is as old as Heraclitus, that of an incessant becoming; its peculiar merit is that it leads us to understand far better the principle and the effects of the eternal flux. In the inner world of consciousness we can perceive that flux directly, and to the inner world exclusively Bergson devotes the first of his works, the *Données Immédiates de la Conscience.* But that his latest work, that on Evolution, stands in the closest relation to his earliest Bergson expressly points out in the preface to the latter. For the idea developed in both is that of growth and enrichment. As the bud grows into flower and fruit, so the living body ripens, ages, and throws off fresh living bodies, so species evolve into higher species, so perhaps the world as a whole is ever re-creating itself. But in objective things we see only the effects of the process, in the world of consciousness we see the process itself; we see a psychical mass of elements perhaps separable but never separated always interpenetrating, moving on as a whole towards an adaptation to our present environment—an adaptation which is essentially Action, but which involves also all that we call recognition, knowledge, instinct. Such a consciousness has a history; its life is not a mere filling of successive moments of abstract time with a content now new, now old; it is a movement, in which there is no repetition, no subjection to general laws—a movement individual and irreversible. It has temporal predicates; there is in its life an earlier and a later, length and brevity; but its length is never that of so many moments of abstract time but a certain duration having a fixed 'protensive' *quality;* the hour-long toothache is not two toothaches each of half an hour's length or sixty minute-toothaches. An old, or rather effete, apophthegm tells us 'History is philosophy teaching by examples'; but 'example' has a meaning, general laws—which is what is here understood by 'philosophy'—have a meaning, only where there is repetition; but history never repeats itself.

Every nation is vitally different from every other nation ; and if a nation ever finds itself again in an old environment, it will react to it, as an individual would, in a different way, just because its growth in the interval has left it no longer the same.

But if living things, conscious or unconscious, with souls or without souls, may correctly be described as in endless, irreversible movement, in which no repetition is possible and no general law can be discerned, are there not inanimate things with no principle of movement, ever repeating themselves—at least while isolated from other influences—and essentially subject to general laws ? How then can the world as a whole, which is largely composed of such things, be conceived as engaged in the same process of continual self-creation that we perhaps rightly attributed to living things ? Does not science exist to confute such fancies ? if it has admittedly up to the present failed to understand the living, has it not grasped general laws which enable us successfully to predict the interactions of the non-living ? does it not find, and even of itself produce, endless repetitions among the phenomena of the non-living ? We do not deny it. But to predict or even to produce is not to explain. In all, even physical, phenomena there is something which science cannot, but happily need not, explain—succession ; if, as Bergson puts it, the melting of sugar in water takes time, there is in some sense a history even to sugar. The dream of science is to discover causes which involve their effects, which *are* their effects ; but if ever the cause were the effect, then there would be no cause, no effect at all.

And this brings us to a second idea ever running through Bergson's work, his depreciation of intelligence, the very faculty exercised in science and in the perception on which science is built. He thus ventures on a 'Theory of Knowledge,' a theory which many thinkers from Lotze to Mr. Prichard in his recent able work on Kant have come to regard as a useless superfetation. But Bergson's theory is very different from Kant's. It is a consequence of his thoroughgoing belief in evolution, creative evolution of new and higher forms of life. He holds evolution to have taken place on three different lines—the line of Automatism, exhibited in plants ; the line of Instinct, exhibited pre-eminently in the Hymenoptera ; the line of Intelligence, exhibited in the Vertebrates and carried to its highest in Man. At the basis of these modes of evolution, as at the basis of each particular living individual, is a general Life-Force or 'Élan de vie,' ever pushing on to organisations more free and more effec-

tive in dealing with the brute matter of the environment. But because this life-force held suspended in it different tendencies which had to separate as they grew, it ultimately developed itself along divergent lines, achieving at the terminus of each an extraordinary success in the execution of its main purpose, but by the radically different methods of vegetism, instinct, and intelligence; the view, in some form as old as Aristotle and still commonly held, that the vegetal automatism is the original basis on which instinct arises, and that intelligence develops from instinct, or at least that there is some community between the last two, Bergson regards as radically false and disproved by the facts of evolution. We cannot for the present unfold these ideas further. But what is intelligence, what is the characteristic faculty of man, by which he has attained so marvellous a command of his environment? It is something much more definite than a vague power of adaptation. It is the capacity for fabrication, for making out of the inorganic, to some extent even out of the organic, world, *instruments*, themselves inorganic and external to their creator, for the satisfaction of his wants, fire and clothes to keep him warm, a house to keep him dry, fishing-rods and arrows to procure him food. But what is the psychical capacity on which this power rests? It is man's power of *detaching* from the fluent continuum which is absolute reality fixed things or fixed systems, the essence of which—so far as we can or need to determine them—is just that repetition, that obedience to law, which we do not find in the living individual nor perhaps in Nature at all, if taken as a whole. Intelligent action is the action that assumes such fixity, intelligence is just the conscious assumption of it. What we call logical principles and categories of the understanding are just the assumptions, but assumptions now consciously grasped, of a mode of action found to some degree in all vertebrates, but in an infinitely higher degree in man. But that mode of action and therefore those conscious assumptions are the products of evolution; how then can they be the principle of evolution itself? and if animals live and grow in their bodies, their thoughts and character—their souls in short—by a kind of evolution, how can we expect that the intelligence and its categories should explain this life and growth? The seeming absoluteness then of the ideas of the understanding, of natural law, of uniformity, of causation, of unity and identity, of multiplicity, of non-contradiction, is illusory. We men can attain no success except by using them, and where we use them successfully they must be approximately true. But there is the wide domain

of the living in which they meet with no success; to insist on applying them there is merely blindly to practice a natural habit, the mental habit of the human species. The primitive form of such habit is Perception, by which we isolate and are thus able to use single fixed things; the more refined form is physical science, by which we isolate or construct fixed systems. But neither perception nor science gives us the ultimate truth; intelligence is not the final arbiter. It is the great divider, and it trusts as implicitly as the conqueror to the maxim 'divide et impera'. The true motto of the human species is 'Natura non nisi dividendo vincitur'; its conquests are made by the violation, the disorganisation of nature. The more familiar 'Natura non nisi parendo vincitur' is the motto, we shall find, of instinct, of the bee and the ant.

Bergson's *Données* with wonderful sureness and insight shows, as we have said, that the conscious life is a continuous growth, a real whole that changes as a whole, no merely apparent whole in which certain immutable elements, obeying as to their mutual relations immutable laws, effect apparent changes in the whole by reconstructions now here, now there, in its substance. It is no mere succession of precisely definable states, ever repeated with an equal or different intensity, associated with one another or free from such association. A self-conscious mind cannot be this, for "a succession of perceptions is not a perception of succession". Nor can the 'parts' of a mental state be really separate and juxtaposed; we directly feel their interpenetration, the integrity of the soul. The second chapter of the *Données* defends this thesis. The first helps in destroying the crude notion of separable definable mental states by showing that we do not experience the same state in varying degrees of intensity as commonsense and the psycho-physicists suppose; but that the so-called different intensities of a single sensation, effort, sentiment, emotion are really different sensations or emotions altogether.

Let us speak first of the admirable first chapter, a chapter which no one can read without feeling that a new power has arisen in the philosophical world. Intensity is a kind of magnitude, as even Kant acknowledged by his antithesis of intensive and extensive magnitudes. But magnitude is spatial or it is nothing; the greater contains the less, it is the less with something added to it. But who can think of a heat of 90° as a heat of 60° + a heat of 30°? or of a great joy as a sum of smaller joys? or of a great effort as a sum of smaller efforts? Each sensible 'degree' of heat has its own special quality; and so has each degree of illumination and

of saturation, no less than each shade of colour. What then is that difference which is signified by 'more and less intense'? and why do we identify it with the difference between the large and the small? We must not give the same answer in every case. In sensation the magnitude of the external object, in effort the magnitude of the external movement, no doubt counts for something in our consciousness and gives the appearance of largeness and smallness to the sensation or effort itself. But the profounder explanation of the seemingly various intensities of the same effort, the only explanation of the seemingly various intensities of the same emotion is that the 'intenser' is radically different from the less intense. An intenser joy is not a dilatation of the same joy; it is the coloration of a greater number of elements in our mental life; in its extreme form it makes all our feelings and our perceptions different from what they were. An intense pain, says the psychologist, 'irradiates' to new elements; in fact the irradiation is not a property of the intensity, it is the intensity. A greater effort is not a greater tension of the same part of the body, it is a tension spreading to a greater number of parts. If we extend the arm and slightly bend the first finger without contracting a muscle of the hand, we may feel a considerable expenditure of energy: but this comes from the simultaneous fixation of the muscles of the chest, the closing of the glottis, the active contraction of the respiratory muscles (D. 15-19).

The psycho-physicists then, who profess to measure mental states, build on a rotten foundation. Indeed common sense-recoils from the conclusions to which they push its own assumption. Consciousness finds no meaning in that 'minimum increment of sensation' and the equality 'of all such minima' which are the fundamental assumptions of Fechner; nor yet in an equality of the differences between two pairs of sensations, on which the experiments of Delboeuf rest (D. 42-4).

But, when we have granted the interpenetration of all the elements of consciousness at a single moment, there still remains the doctrine lightly dismissed by us on page 18, that, after all, the conscious life is a succession, and so consists of real parts really juxtaposed, only not in space but in time. Does not Kant say that Time is the form of inner perception, as Space of Outer Perception? Now against this view Bergson never ceases to protest. His crusade against abstract Time is in fact one phase of his fundamental doctrine, as the constant self-creation of living things—perhaps even of the whole universe,—or his protests against the inadequateness

of intelligence are others. For to postulate abstract time is to break up the continuous process which is the essence of reality into an infinite number of stationary parts each of which corresponds to or occurs in 'a moment of time'. Such a comminution the intelligence makes and, as the characteristic and within limits the successful method of human action, is justified in making. But in doing so it gets rid of the continuous process of reality altogether and so far falsifies reality. And what does it substitute for it? There is a real concrete time, part of things themselves, the duration—felt by the living, unfelt by the inanimate—which belongs to their changes. But intelligence substitutes for this an abstract time, an homogeneous measurable medium, a conception fraught with endless self-contradiction. For it is at once an ever disappearing and yet a persistent reality, instantaneous and yet eternal, *εἰκὼ κινητὸν τοῦ ἀιῶνος*, as Plato says in the *Timæus*. But this monster is really but a 'bastard' of space, an application of space to a region where space is inapplicable. For separateness, divisibility, numerability, number itself are conceivable only where space, real or ideal, is presupposed. If the things we count are merely in time, then each passes away as it is noted; to make a whole, *i.e.* to be really counted, they must *remain*, *i.e.* they must all be in one space, real or ideal. We do not—to use Bergson's illustration—count the men in a regiment when we call the roll of it.

That abstract time is merely space over again is shown by our imagining it as a line. That the image is unworkable appears as soon as we have to speak of 'the movement of time'. We have to add to our line an object moving uniformly along it. In fact when we assign to a process a certain length of time we really mean that the process ends simultaneously with the arrival of the standard object at a certain point on the line, its movement having commenced simultaneously with the commencement of the process. And this is all that our measurements of time tell us, the simultaneities between one process and another, the standard process being chosen for its uniformity, and the ultimate test of its uniformity being nothing but this, that we *feel* it to be uniform, whether it be the movement of the sun in the sky, or that of a pendulum. Of a mysterious monster, time, whose essence it is to move uniformly, the man of science knows nothing. Of movement, then, itself science tells us nothing, but only of simultaneities between different movements. But these are just what for the purposes of practice we really want to know. Suppose everything moved twice

as fast as at present, our limbs included; our feelings would be very different; but our actions would need no alteration; nor would our mathematical 'equations of motion'. The paradoxes of Zeno—whether obviously absurd as 'the flying arrow rests,' 'a time is double itself,' or plausible as that of Achilles and the tortoise—all rest on the identification of Movement itself with the line traversed by it. Because that is divisible as we please, it is assumed that the movement is so: and we placidly take for granted that Achilles' movement is fairly represented by steps taken as and when the tortoise takes its steps, only ten times, say, as long. Bergson recurs often to these paradoxes.

But now, says Bergson in chapter iii., determinists and libertarians wage a contest over our liberty, endless, because both take that view of conscious life which we have already refuted. If our life were merely a succession of 'moments' at each of which was to be found an aggregate of distinct tendencies each of a given strength, then it seems impossible to deny that the actions performed would be fatally determined. But this is the view of intelligence, analysing after its usual fashion a *given* or *made* whole; it is retrospection over our past. But living is not retrospection—except possibly in morbid cases, where the spring of life is broken, the man feels himself a prisoner of his past, and asks despairingly, 'What else can such a being as I do?' Knowledge looks backward, it sees a road traversed; life looks forward, it makes a road. When we have to act, we do not feel ourselves a mere collection of tendencies of definite strength; nay, as we have shown, the very idea of 'the strength' of a tendency is a false one; we feel, as we are making up our mind, that a particular tendency is now less, now more absorbing. It is only the outside spectator or ourselves, when the action is over, that can map our soul into tendencies and assign each a definite strength. Ultimately the determinist's argument is 'I cannot see how I could have acted otherwise'—which is an attitude of retrospection, not of living. But the libertarian is just as much retrospective, just as ignorant of the real movement of life. Only, looking back to a point farther back than the determinist, to a point preceding the movement which issued in the present act, he says 'I see that I could have acted otherwise; I do not see anything that forced me to act as I have done'.

But conscious life is found only in connexion with living body. Is it in such dependence on the latter as will force us to retract the view we have given of it above? What is a living body, and what does it do? Is it essentially the same

as inanimate matter, only wrought into an organized individual where every part tends to serve every other? or is it some entirely new substance? These are the questions—biological, psychological, metaphysical—considered in *Matière et Mémoire*. Its answer is that even where the conscious life seems most dependent on the body, in perception and memory, its life is yet essentially spiritual. A life-force, essentially such as we have recognized in the conscious life, has been gradually insinuating itself into matter, adapting matter more and more precisely and comprehensively to become the organ of its further action. If it has become imprisoned in the living body, it has at least made its prison-house to suit itself.

The living body, say of man, perceives, feels, and acts upon the bodies that surround it. Its action on them presents no special difficulty, it is just one case of the action of matter on matter. But what of its perception? is that the converse of its action, is it the action of the surrounding matter on the human body? In that case the action of matter on matter would produce something entirely novel and mysterious, a representation of the agent. The materialist boldly says that it does; that, in addition to the material effect on nerves and brain, there is further produced in the latter a shadow—surely a most inappropriate name—of the material effect, an extra or epi-phenomenon, powerless as all shadows are, and in no way accounting for anything that follows. Common-sense, repelled by this conclusion, while taking perception to be in the first place a material action on the brain, supposes its effect on the brain to be translated into a state or phase of the immaterial mind, a representation of the external object, or—as the idealists would say—something out of which the external object is constructed. But the brain is just one part of the general material system and connected with the rest by physical laws; if they are images, so is the brain; if the brain is real, so are they. Materialism, common-sense, idealism, however much they differ, agree in the impossible postulate that the part somehow contains the whole.

Bergson's view is very different. He holds that life is action, adaptation, utilisation, that perception is 'an annex to action,' practical not contemplative, and possible therefore only in relation to the present, which alone acts and can be acted on. Our elaborate nervous system is only an immense complication by successive differentiation and dissociation of the formless amoeba, in whose uniform contractility and excitability perception and action are fused and indistinguish-

able, in which "touch is at once active and passive, and the instrument of perception is also a means of defence". With us they seem separated; perception and action seem two wholly different kinds of consciousness; and the bodily organs of each seem not less separate. But let us assume—what alone seems reasonable—that in us, as in the amoeba, movement is given to the body from the external and returned by it to the external, only by a far greater variety of routes, since in us endless motor nerves *can* be connected in 'the great telephone exchange' of the brain with endless sensory nerves. The question then remains—what determines the actual connexion, what determines the specific route taken? Bergson answers, Spirit, the Life whose principle is adaptation, utilisation. Whenever we intelligently act, a question has been put to the motor activity and answered; but the same should be said whenever we perceive. All perception is nascent action, action ready to be executed but not yet executed; choice has taken place, but execution can be postponed. Hence in our reflex re-actions—say of blinking at light—there is no perception, because execution is immediate, and the act is not chosen but necessary; hence in the amoeba perception is fused in action, because the amoeba is sensitive only to what is in contact with it and its re-action cannot be postponed, while the simplicity of its system allows it no choice of routes for its re-action. But Man is sensible to the distant and takes an active attitude towards it before execution is absolutely necessary, an attitude in which there is an element of choice. This attitude is perception itself. Only in this way can the variability in our perception of the same object be understood; and in a sense Bergson would accept Plato's view that perception does not give knowledge. But none the more does he accept the idealistic view that perception is a merely subjective condition, a 'hallucination vraie,' from which external objects are constructed by a mysterious 'projection'. The perception gives the real, the external, but only so much of it as *may* affect us and be affected by us; and this awakens a consciousness in us just because of our freedom of action in respect to it. So far as its effects on us and our consequent movement are not merely possible but actual and necessarily determined by physical laws, we may have sensation proper, a truly subjective state; but perceive we do not. We feel, say, an increasing heat; we do not perceive the fire that causes it. True perception is the reflexion thrown by our freedom on that which awakens it to action. But this reflexion is no mere image in us of a thing without us. If

we must call it an 'image,' it is at least no more an image than what the most thorough-going materialism would call the ultimate elements of the world, matter and movement. If this language implies 'relativity,' it is only the relativity defined in what Mill (*Hamilton*, ch. ii.) justly calls 'the insignificant truism,' that 'our knowledge is relative to us inasmuch as it is we that know it'. We must only add that we are speaking of *pure* perception, entirely unqualified by memory, which of course adds a personal element, as when one who has had experience of ice 'perceives,' in merely seeing it, its coldness—a quality entirely invisible to one unfamiliar with ice. And memory, if Bergson is right, may qualify our perception in a different way. For the rhythm of our life may be entirely different from that of the object; a moment of our life may contain many moments of the object's; thus what is for us an instantaneous perception of red light corresponds to 400 billion vibrations in the object; in fact all 'the sensible qualities' of objects seem to be perceptions into which an enormous number of the object's moments are contracted, seem in short to involve a memory. But if for the moment we neglect this, we may say that 'pure perception' is an instantaneous and impersonal contact with real objects. We feel it at first as impersonal; it is only later that we discover among the images it gives one—that of our own body, namely—which remains invariable, while all the others vary with change in our body's position. But common-sense, when it discovers this, does not fly to the conclusion that all our perceptions are merely subjective; and it is only a false logic that has forced philosophers to do so. Matter then is something including and greater than our perceptions; it is not something intrinsically different from them.

Finally, we said above (p. 17) that man's characteristic power, the intelligence, is shown in 'detaching from the fluent continuum which is absolute reality fixed things'. Obviously perception does this; and if our account of the nature of perception is correct, this is what we should expect it to do. But since the power of man is so much greater than that of animals, that of the adult so much greater than that of the child, we should expect 'the fixed things' which each detaches from the continuum to be very different. That they are so is a commonplace to all who have observed children in the open air. 'A slight ridge,' says Sir G. Trevelyan in his delightful account of Macaulay's boyhood, '*the very existence of which no one above eight years old would notice*, was dignified with the title of the Alps'. 'Chaque

être,' says Bergson (*E.C.*, 396, 7), 'décompose le monde matériel selon les lignes mêmes que son action y doit suivre.' Scientific man marks off not things but systems of things; or divides things to any extent he may find feasible or desirable. This potentiality of divisibility is what he expresses in the conception of Space, which is just the 'schema' of divisibility, not sensible but 'a form of sensibility'; only not of universal sensibility but only of that of the physicist or geometer.

Perception then involves our own body and external bodies; it is the nascent adaptive action of the former on the latter. But what are we to say of memory and its images? As dispensing with an external object it might seem purely spiritual. But it depends on previous perceptions, it seems even to common-sense to store them 'in our heads,' and it is certainly affected by damage to the brain. We cannot then doubt that it is somehow connected with matter, if not altogether material. And yet the storehouse theory of memory has most serious difficulties. For why should the contents of the storehouse ever re-appear? and why should they re-appear with that modification that makes us regard them as *past?* if they went in perceptions, why should they come out something else? These are further problems of *Matière et Mémoire*. Bergson concludes, as we shall see, that memory can only be explained from the spiritual part of man; that all the phenomena of it, normal and pathological, are compatible with such a theory only. The problem has an importance as great for metaphysics as for psychology. For if memory can be materialised, then the very fortress of thought has been captured by the materialist, since the connexion of thinking with memory is obvious, and is in fact implied in most languages; to 'think of,' in English, is synonymous with 'to recall'.

It has been commonly held since Hume that memory-images are but fainter perception-images. The great objection to this is that the former are felt as past, the latter as present and acting. Bergson accordingly holds that the first condition of the memory-image is, that *d'emblée*, from the outset, we should by a purely mental act, pure memory, place ourselves in thought in the past; out of this attitude there grow up, he holds, nebulous at first but ever more distinct, images becoming constantly more and more like those of perception; but they must be felt to have their roots in the past, and that is why they are felt as past.

Yet there is undoubtedly a close approximation between the memory- and the perception-image, close enough to make

Hume's view seem very plausible; and this approximation proceeds not merely from the side of memory, but from the side of perception as well. For when we 'see' the coldness of ice or the heat of steaming water (p. 24), we have a perception which is at bottom a memory. And so long as we take a merely static view of the memory- and the perception-image, we may like Prof. Stout—perhaps the first among living English psychologists—protest against the identification of the two, but we are powerless to resist it. Bergson shows us the root of the error. It lies in this, that our understanding, as we said on page 17, by its fixed habit picks out the stable from the fluid, notes the end and ignores the process in which it is a stage. We have indeed the words 'process' or 'movement'; but we can make no use of them for scientific determination; they remain mere abstractions, reminding us of the essential feature of our conscious life and probably of all life, but incapable of use in calculation, production, or prediction. And yet they express the ultimate reality. And we see this in our present example. We try to define the memory-image and entirely fail to distinguish it from the perception-image, in spite of all the protests of our consciousness. But the radical difference between them is in the processes in which they are merely termini; and the process ending in the memory-image is one, as we have already said shortly and shall presently show in more detail, that starts in the mind, though it may fuse in an active perception which undoubtedly involves the body.

Will it be said that we have images, due to past experience, but not 'memory-images,' not professing to be copies of the past; and that these by a sort of attraction to the perception—we remember Hume's idea that 'attraction' might be the great principle of the mental as of the physical world—fuse or identify themselves with the perception and thus enrich it or make it more familiar to us? But in fact what we have pointed out is that a 'mere image' is a dried, inert abstraction; how could such an image accept as the same what we call the same word but what is really a multitude of different sounds according to the pitch or dialect in which it is pronounced? or how is it that the same sound 'attracts' quite different images according to the context in which it occurs? But the fact is that an image is a stage in a process, and we should not speak of 'the image' as if it were something absolutely definite. In fact it never is so. Not merely have different people different powers of 'visualisation,' *i.e.* they attach different visual images to the same word, but each of us has different images according to the

needs of the occasion; the memories that recur even of the same experience will be of different degrees of particularity; or, as Bergson puts it, 'Memory has several planes'. At its most diffused or detailed plane it is the memory of the dreamer, who revels in the past but never applies it; at its narrowest plane it is the memory of the man of action who puts himself in the past merely to obtain the general extract of it that will fuse with his actual perception. We are learning to make a distinction unknown to our fathers between 'idea' and 'image,' to see that an 'idea' at least is a process, and that we have 'ideas' of much—say of the English Constitution—of which we could not have 'images'. We have only to proceed further on this path to see that the image itself is a creation prompted by the same purposes as the idea, varying therefore with that purpose and never twice the same even in the same person. Such phrases as a 'clear idea' or a 'perfect image' are misleading, there is no such absolute ideal for either image or idea as such phrases set up; each is a creation for a purpose and each is perfect so far as it fulfils the purpose. The thinkers who speak of perfect and imperfect images are just those who speak of a store-house of images. But is it a perfect or an imperfect image that is stored there? if perfect, how does it ever come out imperfect? if imperfect, how does it ever come out perfect? But there are no such stored images, fetched out or awakened by the act of perception. Not the perception elicits the image, but the image comes out to meet and fuse with the perception as the whole self struggles to adapt itself to the present environment.

To make this idea clearer Bergson takes the case of our apprehension of spoken words. The same case has been taken by Prof. Stout in his excellent chapter on 'Implicit Apprehension' (*Analytic Psychology*, i., 78-96), and his conclusions, though more vaguely expressed, agree with Bergson's. He, too, sees that the view that speech is apprehended by the hearer through the resuscitation in him by each word of a corresponding image is contradicted by experience; that 'images' rarely arise in him at all, but that a vague apprehension of the speaker's total drift first emerges and is then defined by, but in its own way also colours and helps to fix the relations of, the words actually heard. We know that in the development of language the sentence precedes the word; that the first step in an infant's apprehension of language is to feel as a whole what the speaker means, or rather what he wants. So in listening the hearer's whole personality reacts to adapt itself to the meaning, the purpose of the speaker; but such reaction, like thought generally, is a *move-*

ment, and therefore not to be represented by 'images' which are *things* (*Matière*, 133). Common experience shows and experiments have definitely proved (*ib.*, 106) that there is a vast amount of divination in our understanding not merely of the 'winged' word but even of *litera scripta*. We ourselves once thought we saw a tradesman's name twice stamped in consecutive lines above his shop-front; the fact was that there was but one set of letters, but a crack extended across them from the bottom left hand to the top right hand corner. Such 'divination,' Bergson justly contends, is fatal to the mechanical theory of memory. Bergson's superiority is that he shows clearly what does occur as well as what is falsely supposed to occur, while Prof. Stout is content with the complementary metaphors of 'image' and 'imageless fringe'.

The Past does not leave behind a deposit of images in 'imaginative brain-centres,' nor is an 'apperceptive centre' needed to re-awaken them. But we may assume that the past experiences of a living being are never lost (Ball, ap. *Matière*, 168 note). They are still present with us in our character; why then should they be incapable of re-appearing as representations? In pathological cases they have been found to re-appear in unexpected, even in startling ways. But into our normal consciousness, 'orientated' as it is by the very constitution of the sensori-motor nervous system towards action, they will not for all their forward pressure gain admission except they promote action, except they help us to 'answer the question put to our motor activity'. Just as far as they are impotent for this we are unconscious of them. But it is an empty logic that would deny the existence of 'unconscious mental states,' not less empty than the logic of Berkeley that would deny the existence of unperceived things. Common-sense repels the latter doctrine because it has to admit a possible efficacity in regions of space outside that which we are observing; it accepts the former because it sees no possible efficacity in the region of time outside the present. But we have seen that the past experience shows its efficacity in the mould it has given to our present *character;* it moulds also our present *perception* in the shape of such 'images' from it as will insert themselves in our present perceived environment, as when we see the coldness as well as the blueness of the ice-block in the glacier we are crossing and shrink from contact with it; or when the sight of clouds makes us think of rain and look round for our umbrella; or when a present mood maintains and as it were justifies itself by admitting images of a certain kind only,

those of dangers when we are depressed, those of pleasures when we are happy. This is the reason why in our normal states the revived images always show the characters of 'resemblance' and 'contiguity'—a truth which 'the laws of Association' invert in affirming that resemblance and contiguity effect the revival. The fact is that it is only the resembling and contiguous that fit into and illumine the present situation; it is from it and as part of it that they get that vivacity which makes us speak of them as 'revived'. In pathological conditions past experiences crowd back on us in defiance of the laws of Association, apparently because of a relaxation of the ordinary connexion between the afferent and efferent parts of the nervous system; the useless recollection can no longer be kept from intruding.

The doctrine of a physical storage of 'images,' Bergson points out, is largely due to a confusion between the motor or organic memory, which re-acts to stimulus with appropriate bodily movement, and the spontaneous memory, which gives us images out of the past. The former is a bodily habit created by repeated effort to perform a certain act, whether the act is to recite without book a dozen lines of Virgil, to play a difficult musical phrase on a piano, to ride a bicycle. The repetition creates in the nervous system a new mechanism which functions of itself as soon as started. There is a real lodgment in a real material. But the image of a past experience does not recur to us by such effort; for the experience being unique cannot be repeated. It just survives, but unconsciously: what consciously revives it we have just now endeavoured to state. As there are two kinds of memory, so there are two kinds of recognition—motor recognition when, without images from the past, we simply make appropriate use of the object or at least feel it to be familiar; spontaneous or intelligent recognition, where images from the past enter and incorporate themselves with and give their character to the object perceived. Attention is the act that facilitates intelligent recognition. It cannot do so—as both Bergson and Stout urge—by the concentration of some mysterious inner light on the object. On the other hand, neither is it reducible to those physical tensions—usually called the 'fixation of attention'—which we undoubtedly create and experience. It is a mental act which prompts such physical acts or attitudes as will bar the entrance of useless images and facilitate the entrance of useful ones. And thus in full accordance with his general theory Bergson can explain what Stout cannot, how attention is at once physical and spiritual.

On the defects of memory and their organic conditions we have no space to follow Bergson through his learned and acute discussion. The defects, which are of such extraordinary variety that the most recent pathologists have come to despair of conceiving any physical theory for them at all (*Matière*, 132), cannot be explained as those who find in the brain a storehouse of images would fain explain them, *viz.* by the lesion of some special brain-centre. Bain thought, logically enough, that the damaged brain-centre must be the centre that functioned in the original perception (*Matière*, 134); but patients who have lost their visual or auditory images can still see or hear. If to account for this we assume special 'imaginative centres,' the facts force us to assume an ever larger number of these, and an ever-increasing number of connexions between them. But give up with Bergson the theory that the brain is a seat of perceptions or images. If only there is such a lesion in the nervous system that the physical impressions received from without cannot be prolonged into the physical acts that usually complete them, then we can no longer name or use the object present to our senses; motor-memory miscarries. On the other hand, imagine such a lesion that we become incapable of making the physical movements needed, as we have seen, for effective attention, then the images from the past that should incorporate themselves in, and so define, the present object to us fail to return. And this gives an intelligible reason why a particular sort of memory should be weakened without being altogether abolished; why, for instance, the memory for names should vanish not at once but step by step, that for proper names vanishing first, that for common nouns next, that for verbs last, just because the *actions* into which these fit themselves, being the simplest, are the last to become impracticable to the patient (*Matière*, 127). 'The supposed destruction of memories is only the interruption of a continuous process by which memory actualises itself' (*Matière*, 126).

The psychological results of the *Données* and the *Matière* need not be further insisted on. Their metaphysical result is to dethrone at once materialism and idealism, the former by establishing the reality of mind or life, the latter by establishing the reality of matter, of movement, and, in a measure, even of the sensible qualities of matter. But they show that we are not to conceive matter as merely possessing shape, infinitely divisible solidity, a capacity for being translated without change, so that no variation is possible to it except in the form, size, and mutual distances of its parts.

This is the reduction of it effected by our intelligence; this makes it amenable to geometry, this holds before the physicist the illusive dream of a day when it will be possible to construct *a priori* all future states of the universe. But we have learnt the uses and limits of intelligence, and can no longer be misled by it. To us matter is essentially that to which the life-force can give the diversity and intricacy of structure that fit it to be the precise and adequate organ of the life-impulse itself.

What novelty beyond their mere elaboration does the longest and to readers untrained in philosophy the most attractive of Bergson's works—*L'Évolution Créatrice*—add to these ideas? It connects them with the doctrine of the evolution of species. It shows that the facts of this evolution are the strongest confirmation of Bergson's theory of vital change; the strongest refutation of a mechanical or a finalistic theory, even though the latter takes the plausible form of Vitalism, which finds a principle of harmonious self-maintenance in each living body. It shows that these same facts confirm Bergson's theory of intelligence and its restriction to a special sphere, and so establish a real separation, unknown to other systems, between philosophy and science.

That the evolution of species is a fact Bergson takes leave to assume. Some may still think it doubtful whether it proceeds by literal filiation. But the relations of living forms shown by the naturalist's classifications, the facts of embryological change, the chronological succession of forms disclosed by palæontology, show that there is a real passage from less to more evolved forms, whether effected by filiation or otherwise. Can, then, this fact be explained by either a mechanical or a finalistic theory? But first let us make a preliminary remark on theories of these two kinds.

It is obvious that a mechanical theory must deny that genuine creation, that incessant uprising of the new and unpredictable which to Bergson is the essence of the universe. For that theory requires, in the well-known phrases once more cited by Bergson from Laplace, Du Bois Reymond, and Huxley, that a complete knowledge of the world at any one time would involve to a superhuman intelligence a knowledge of it at any later time; it involves the view that 'all is given,' the view—to use W. James's phrase—of 'a block-universe'. But a finalistic theory makes the very same postulate. The superhuman intelligence would see the final shape that the Universe will assume, the tendencies that are making for the creation of that shape. And the common

blot in both theories is their anthropomorphism. Man can only create where he has unchanging things for his materials and respects their unchanging laws; and this same necessity is supposed by both theories to bind nature as well: 'I cannot,' says Lord Kelvin somewhere, 'be satisfied that I have explained any natural process, unless I can construct a working model of it'. The finalistic theory adds that nature further imitates man by having in its creations the idea of some plan which an ingenious utilisation of its unchanging materials will realise. But the characteristic action of man and the psychical process which underlies it, intelligence, is, like the human species itself, the *product* of evolution; how then can it be its *principle?* The fact is that we being familiar with only one kind of creation tend to look for it everywhere; if our assumption is wrong, we are left in darkness. But that is no reason for holding the assumption to be right, and we have just seen that there is the strongest possible reason for holding it to be wrong.

Nor will the detailed facts of evolution fit either into a mechanical or a finalistic theory; neither into Darwinism with its theory of accidental, transmissible variations in the germ, whether small or, as Bateson and De Vries hold, large and multiple; nor into the orthogenesis of Eimer, who holds that external influences adapt the organism to themselves by effecting changes in it always in the same constant direction; nor into the finalistic views whether of the neo-Lamarckians who make evolution the result of effort, or of Reinke and Driesche who affirm the doctrine of Vitalism and, in Leibnizian language, make a 'dominant entelechy' direct each living body to its own preservation. One striking fact brought forward by Bergson tests with fatal effect the soundness of each theory—the formation namely in organisms widely divergent of identical complex organs with an identical function, *e.g.* of the eye in Vertebrates and in a certain Mollusc (Pecten). To suppose with the Darwinians that the accumulation of variations can effect two such results is to suppose, not that two different roads may bring two independent travellers to the same point, but that two independent travellers might follow paths of identical form, though that form were composed of innumerable zigzags. Eimer's theory owes its plausibility to the ambiguity of the word 'adaptation'. The beaker into which water or any fluid is poured determines, no doubt, the form they all take. But if such insertion is to be called 'adaptation,' it is at least wholly different from the adaptation by which a living thing moulds itself to take the greatest advantage from its surroundings.

The adaptation may begin in a purely physical way; it may well be that light created the rudimentary eye, the pigmented spot. But so—to use Bergson's brilliant illustration—the orator begins by adopting the passions of the crowd he addresses, but only that in the end he may direct them, and this end he effects. Will it be said that the perfect eye is not an adaptation created to profit by the light? that it is simply created and has, when created, the power of seeing what light illuminates? But the human eye co-operates with and is adapted to the entire sensori-motor system with the sense-organs and the muscles and bones that are its appendages. It is in conjunction with them that it forms an instrument for useful action in an illuminated world. But who will pretend that all these systems were created by the direct action of light, which Eimer makes the sufficient cause of the eye and its function?

So much for mechanical explanations. The finalistic theory would either make the whole universe harmonious—a thesis few have cared to maintain since Leibniz' optimism was exploded by the ridicule of Voltaire; or if we apply it, as Vitalism applies it, not to the universe as a whole but only to those fragments of it which we call organic beings, the physiology of one such being—say man—is enough to show that there is in them no such absolute internal harmony; even in our body the parts live for themselves and some will antagonise the welfare of the whole or even destroy it.

But is not Bergson's own theory of adaptive self-creation a kind of finalism? has not such creation a purpose? No, if by purpose we mean a fixed end; yes, if by purpose we mean a conscious tendency. We must assume an original Life-Force or tendency, holding in equilibrium many tendencies, which presently, as they grow, split off and are dissociated. The child fascinates us by the many possibilities we see in him; as he grows up, one set alone realises itself and the rest are abandoned. But the Life-Force need abandon nothing; it need not evolve in a single eternal individual, nor even in a single series of individuals; it can give rise to many series ever diverging. Yet as all had a single source, even the strongest resemblances between members of different series need not surprise us; Pecten and Homo may have the same function of vision. But how did they come by the same apparatus? Bergson's answer is that the real creation of the Life-Force is the function, not the apparatus. It is our anthropomorphic bias that insists on treating the function as a consequence of the apparatus. Suppose we thrust our hand and arm into a mass of iron filings; when the action

is completed, the filings have assumed a certain form; but has that form any resemblance to our act? When we take the structure of the eye as accounting for its function, are we not acting precisely as one might who analysed and geometrised the complex form assumed by the filings and hoped in the end thus to account for it with no thought of the act which really created it?

That life, then, should develop along different lines, is what the view of Bergson would lead us to expect. Commonsense declares that there are such different lines. Does science contradict it? does science agree with Aristotle that the animal life contains the vegetable, the human the animal? Evolutionary science answers emphatically, No. Doubtless the vegetative tendency may be found in animals and man; doubtless instinctive function, so marvellously developed in bees, is found in man. And if the Life-Force is one, if all life started in formless protoplasm, there is nothing to surprise us in such admixture of tendencies. But look at the prevailing tendency in each realm, the tendency that is found to accentuate itself with evolutionary progress in that realm. The vegetable is stationary, ever nourishing itself on the circumambient air from which by its chlorophyllian function it extracts the carbon it needs, storing energy continuously, giving it out continuously. The animal feeds ultimately on the plant, stores its energy and gives out its energy discontinuously, acts and moves—though in general instinctively, in a way fixed by its organization. Man too stores and gives out energy discontinuously, acts and moves, but with conscious intelligence. True, there are plants that move, climb, catch insects and eat them; but this is not the line along which plant-evolution proceeds; it is not the more but the less evolved, or the starved or degenerate, plants that thus act. At the other end of the scale we find in man a tendency to vegetate; but this is not the line of his evolution; it marks a residuum from the life-principle, which the more active of the species have cast away. Instinct again we find in the vertebrates and even in man. But the evolutionary line, in which it is the dominant principle, is that which culminates in the hymenoptera, bees, ants, wasps. In them it is that we see almost pure the nature of instinct. Embedded in the structure of their bodies, it provides them with an adaptation to the conditions of their lives more perfect than the finest intelligence could create; it endows these minute insects with a knowledge and adroitness such as one who was at once a learned entomologist and a skilled surgeon could scarcely rival. But it is strictly limited to special

things and special aspects of them, like the infant's knowledge of the nurse's breast and its power to suck. It is bound up with the physical organization. In fact between the instinct that uses the organization and the process that creates it we find it impossible to draw the line.

Instinct and intelligence supply, says Bergson, 'equally elegant solutions of the same problem'. But they are profoundly different; instinct is not 'lapsed intelligence,' nor intelligence a complex of instincts. Intelligence aims at fabrication; it needs for its material the unchanging, the reproducible at all times and places; ultimately, it deals not with special *things* but with special *relations*. Tentatively exploring it finds the material suited to it; this material is the non-living. Instinct does not fabricate, it uses; or if it constructs, its work is not one in which each part finds itself co-operating with other parts naturally indifferent to it, but an organic whole. It knows by a sort of 'sympathy' the things it deals with; but it knows nothing *about* them, from which it could infer their behaviour in other relations. Therefore instinct knows, or at least can handle, the living. Man can only do so, so far as he possesses a similar instinct; the more he applies in this field the dissecting and reconstructing method of his intelligence, the more completely he fails. In these days when we find good and formative teachers as rare as ever, but 'text-books of Pædagogy' thick as leaves in Vallombrosa, and teachers of Pædagogy—who have either never taught or failed as teachers—more numerous still, it is well to call attention to the strong words of Bergson (*E.C.*, 179): 'the intelligence, so adroit at manageing the inert, shows its clumsiness as soon as it touches the living. The history of Hygiene and Pedagogy could say much on this point. When one reflects on the urgent and capital interest we have in the preservation of our bodies and the elevation of our souls, on the special facilities granted to each of us for incessant experiment, and the palpable loss which is the price of insufficiency in our medical and pedagogical practice, one remains astounded at the grossness and persistence of their blunders.'

The intelligence in fact is nowhere fully at home except with the homogeneous, the unchanging, the merely quantitative. In Geometry, in the Theory of Numbers, it can make endless discoveries, but of identities only, never of causes and effects. That one thing should change into another, that one thing should cause another, is to the understanding an absurdity. It cannot fully grasp even inanimate nature; and when it seeks in what we call 'Inductive Logic'—though

so far as it is not a pure Methodology it is simply bad Metaphysics—to give an intelligible idea of causation, it simply flounders or contradicts itself. In dealing with life it is still more at fault, for life is an eternal creation of novelties. Bergson has noticed this in the preface to his *Évolution:* 'one would be much puzzled,' says he, 'to cite a single biological discovery due to pure reasoning; and in general when experience has ended by showing us how life proceeds to obtain a certain result, we find that its manner of operating is precisely one of which we should never have thought'. Those who so glibly vouch 'a philosophy of history' would probably be less confident if they knew more of the details of history.

A most interesting part of *Évolution Créatrice* is the comparison of ancient and modern science and philosophy. The founders of Greek science did their best to ignore change; the reality to them consisted in immutable Forms, a degradation of which occurred in the perceived world by an admixture with an indefinable somewhat, which Plato called 'the Nothing' and Aristotle 'Matter'. And as multiplicity was as inexplicable as mutability, the Forms themselves were regarded as logical emanations from one highest Form. Space and time were not realities at all. The various Forms were the subject-matter of the sciences, the unity of those Forms of philosophy. The value of such science may be seen from the Aristotelian physics with its assumption of the two great Forms of 'gravity' and 'levity,' a physics as arbitrary as it is vague and incapable of development. The fruitful modern physics that begins with Galileo dreamt of no such essential forms. Instead of conceiving that 'heavy' bodies had a nature that was realised when they reached the earth (*cf.* the quotation from *de Cœlo*, 310 *a*, 34 in *E.C.*, 248 n.), and 'light' bodies the contrary, the new science gave no prerogative position to the terminus of the movement as though it were a sort of immanent purpose, but set itself to determine the movement by determining the place of the body at *any* moment of time, which—as we have seen—means determining the correspondences between its place and those of a body moving uniformly. Galilean science could no more 'explain' the movement than Aristotelian; but it saw what could be ascertained and what it was alone of value to ascertain. But then, as Bergson points out, the moderns, while throwing over the ancient science, virtually retained under ever-increasing difficulties the ancient metaphysics, and this from no accidental cause, but because that metaphysics is just the natural metaphysics of the intelligence. For the character-

istic function and action of the human species demand self-identical, persistent objects with constant mutual relations; human language can express nothing else. That modern science, while recognising movement as the very nature of things, should in its calculations ignore the movement itself, content to seize the line along which it travels and to define positions in it, has nothing surprising in it. Only so could movement become a subject for quantitative determination, for science, in fact, at all. But that men familiar with a science that implied the reality of movement should yet construct world-systems independent of it—as Spinoza and Leibniz, and later Fichte and Hegel did—is truly surprising, till we recollect the bias given by the nature of intelligence. But to intelligence we must add intuition, what instinct might be if it could widen, and become conscious of, itself. Such an intuition we have in our own conscious life, where we not merely enact a genuinely creative process, but see, or at least feel, it. And the business of philosophy is just to press this element of intuition, both because of its superior importance and because it is just what Science does not use and cannot even recognise. Intuition is the vital element in every philosopher, not the dialectic of the intelligence by which he tests it or the system of concepts in which he seeks to embody and communicate it. Nay, 'the very effort,' says Bergson (*E.C.*, 259), 'by which we connect ideas with ideas makes the intuition vanish which the ideas proposed permanently to store for us'. We are reminded of Arnold's view of 'the Progress of Poesy':—

> The man mature with labour chops
> For the bright stream a channel grand,
> And sees not that the sacred drops
> Are lost and vanished out of hand.

On the other hand, a philosophy which accepts all that science would give it and asks for no more than to be allowed to systematise it and lay down its principles will find nothing left for it; with the facts of science it accepts the principles of science and a metaphysic, escape from which it has deliberately barred.

Intelligence, says Bergson in a happy illustration, gives us such a view of life as the cinematograph. There we seem to have the movement of life itself; but what we really have is a very large number of instantaneous views, each stationary; the apparent movement is not their movement but only that of the screen on which they are thrown. Such is our science; the 'views' it gives of the unending process of

nature may be made indefinitely numerous; of the movement we have not—as for practical purposes we do not need to have—any idea. Our knowledge is external, superficial; but it is practical, it is what we need for action, it succeeds.

The 'general law' of the logical text-books is a fusion—by 'endosmose,' as Bergson would say—of the 'law' of modern science and the 'genus' (Form, Species) of Aristotelian. The two ideas are quite different, though the modern logician—even, we think, so recent and acute a writer as Dr. Mellone—often tries to persuade himself that modern science no less than Aristotelian is a research for 'Real Kinds'. But 'real kinds' imply a negation of the reality of movement; *they* are the one reality, permanent things that maintain themselves generation after generation. Modern science takes movement and change for the ultimate fact and seeks to discover the laws of its stages, that is the correspondences among those stages; it gives relations; in its most perfect form it gives quantitative relations. Such a relation is 'general' in our sense, but it is not a genus, a thing, at all. It crosses and confuses all that Aristotle would have thought the most palpable distinctions of genera; it applies as much to the semi-divine heavenly body as to the lifeless stone.

If evolution is really creative, the famous theory of Herbert Spencer is no better than a mare's nest (*E.C.*, 392-398). It recognises no 'making'; it deals only with the made. It builds up the world by the composition and separation of solid particles; it explains instinct and reasonable will by a composition of 'reflexes'; it makes the principles of intelligence the imprint effected on us by the 'phenomena' of the external world. But how do we come by solid particles, by distinct phenomena? they are just the creation, or rather the external reflexion, of intelligence in the continuous flux. When intelligence is not, they are not. And this distinguishing intelligence, and instinct, and the 'reflexes' are themselves the creation of the life-force, that in its effort to express and manifest itself agitates brute matter, and gives rise to the continuous flux. *Vita agitat molem.* 'Reflexes' are not original, instinct is not original, intelligence is not original. Is the creation of a city explained by pointing to the collocation of houses? The creation of the city is also the creation of the houses with the streets that separate them, whose outlines they define. A picture is really made—says Bergson—as it grows under the hand and mind of the artist; if the same picture is glued to cardboard and cut into squares, a child may put them together; but he is *making* the

picture. Just such a sham making inconceivable except as preceded by a real making, is what Spencer presents as the evolution of the world and man.

Bergson's metaphysics involve, as he expressly points out, the two ideas of growth and decay, of a rise and a descent. The working of the life-force is a process of creation, but the law of matter is dissipation of energy, waste, loss. Are we then to conceive two independent, antagonising principles, as opposite as the tendency of matter to fall to the earth and there remain inert and of the energy which raises it? Bergson suggests that the seeming opposition, the seeming inverse relation of the two processes to one another, is really due to the *interruption* of the one process of creation. If the one is called tension, the other will be relaxation, or, as the French more neatly puts it, '*détente*'. From the one comes complexity, interpenetration, the abolition of space, which is the *schema* of separateness; from its interruption comes separation and the re-creation of spatiality. Therefore in the conscious life, which is ever creative, space and spatial relations are unmeaning, and the attempt to understand it as due to the 'attraction' of separate elements (in Hume's phrase) must be a hopeless failure. But, as we have so often said, the peculiarly human practical work of intelligence can only be effected, if at all, by a separation of elements in the continuum. It is actually effected, and we must therefore hold such separation to be in a measure real. Possibly then it is real just where the work of the life-force stops or is broken off. If we could see that life-force operating throughout the universe, as perhaps ultimately it does, our intelligence would be blasted in such vision; the human species, supporting itself in existence by intelligent action, would be annihilated or give place to some higher form.

We are tempted to close our survey of Bergson's philosophy by asking how it solves, if it can solve, a problem which is a testing stone to all evolutionary theories, and in which Bergson himself obviously feels a deep interest—whence comes the immeasurable superiority of Man over his brother vertebrates? Allow him to have advanced farther on the road of intelligence than they, to depend far less on instinct, even—as Bergson somewhere says—to have definitely given instinct its *congé*, how are we to account for his enormous superiority, for the seeming infiniteness of his possibilities? His body is a system of machinery developed on the same lines as that of the other vertebrates and not to an external view widely differing from theirs. His freedom they share. If he can generalise, so also—as far as practice is concerned—can they,

and often with great intelligence. We see of course in him three great possessions which immensely reinforce his intelligence—his instruments, which embody actions, while the animal's only instrument is his own body and the motor mechanisms he gradually creates in his nervous system; his language, which is itself an instrument, and the most valuable kind of instrument, that which recalls and gives us the command of ideas, so that the Nominalist is not altogether wrong when he identifies ideas with words, more right in fact than the grosser kind of Conceptualist who identifies them with images; his social co-operation, a co-operation not unknown to the animals, but raised in man to an altogether higher power by his possession of instruments and language, which can be shared as nothing belonging to the animal can. But still all these seem accidents, if fortunate accidents, not enough to raise mankind into a species so transcendently different. Perhaps Bergson has hit the mark when he suggests that the animal with all his intelligence is yet and remains 'the captive of his own body'. He can only raise himself above automatism by falling into a new automatism altogether. By a well-known incident in the history of inventions Bergson illustrates his point with his usual felicity. We have all heard of the first crude steam-engine that required the constant attention of a boy to open and shut the valves for the admission to the cylinder of the cold water or steam; and how one day a truant of genius bethought himself of tying the handles of the valves to the beam of the steam-engine; henceforth the engine worked itself, and the boy was left free to employ himself as he pleased. So the progress of man has taken place through the creation of an external machinery which relieves him from the animal's limitation of choice, a mere choice of slaveries. The animal can only make of himself a new machine; the man ceases to be a machine at all.

III.—A NEW 'LAW OF THOUGHT' AND ITS IMPLICATIONS.

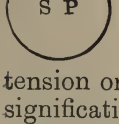
By E. E. Constance Jones.

"I am the pillars of the house,
The keystone of the arch am I;
Take me away, and roof and wall
Would fall to ruin utterly."—K. Tynan.

It will not be disputed that assertions of the forms

S is P, *S is not P*

are possible, actual, significant, useful and necessary. They *can* be used, they *are* used, they *must* be used. I agree with Prof. Frege in holding that propositions of the form *S is P*



are correctly analysed as asserting identity of extension or denotation (*Bedeutung*) in diversity of intension or signification (*Sinn*),[1] and from this analysis[2] I obtain the principle that—

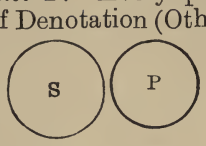
Every subject of affirmative Predication is an identity-in-diversity (*i.e.* denotational unity in intensional difference). This applies absolutely without exception to every Proposition of the form *S is P*.

A corresponding analysis applies to propositions of the

[1] By Extension or Denotation of a name I mean the things to which the name applies; by Intension or Signification of a name I mean the properties of the things to which the name applies. Extension gives the 'existential' aspect, Intension gives the qualitative aspect. The things in question may be material or immaterial; they may have a fixed and definite position in space and time, or be, on the other hand, ideal, imaginary, or merely suppositional. The Extension or Denotation of *e.g.* Quadruped is: Lion, Tiger, Horse, Dog, Cat, Mouse, etc.; the Intension is: Animality and Four-footed-ness.

[2] This is the most elementary, and the only absolutely general analysis of Propositions (as distinguished from sentences) of the form *S is P*. It is as general as the form *S is P* itself, and from that most abstract form, this universally applicable analysis can be obtained. Compare $a=b$ as symbolic of equations.

form *S is not P*. Every proposition of this form asserts difference of Denotation (Otherness) in difference of Intension

(Diversity) 

I will examine cases in illustration of the above analysis of *S is P* and *S is not-P* further on, and briefly consider the relation of *S is P*, *S is not P*, to 'Relative' Propositions, such as *A is equal to B*, *C is father of D*, etc.

Propositions of the forms *S is P*, *S is not P*, are indispensable for significant assertion; and we need them for a satisfactory statement of the 'Laws of Thought'. Without them we are in strictness limited to

A is A, *A is-not not-A*, *A is either A or not-A*,[1]

forms which, though they have at first sight a dazzling appearance of self-evidence, are not only unnatural and difficult to interpret, but are also separated by an impassable chasm from *A is B* (*S is P*).

Granted that we can assert *A is B*, *A is not B* (*S is P*, etc.), and further that we can explain and justify this form, we can proceed to a straightforward, effective and applicable statement of the Laws of Contradiction and Excluded Middle, thus:—

S is P } cannot both be true (Law of Contradiction).
S is not P } cannot both be false (Law of Excluded Middle).

It follows from these two Laws that of any Subject of Predication (S), any Predicate (P) is affirmable or deniable; and that of any Subject of Predication (S), either P or not-P can be affirmed. And so from *S is P*, *S is not P* (analysed as above) we obtain the principle that—

Every Subject of Predication is an identity-in-diversity. (It is the above analysis of Categoricals and its implications that I desire to expound and advocate in this paper.)

It follows further from the above that every Predicate (P) is necessarily incompatible with *not-P*, (*absence of intension P*,) and necessarily compatible with *not-not-P*. (This suggests a principle of necessary connexion of attributes.)

The learner[2] who is informed that

S is P

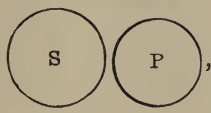
[1] *Everything is A or not-A* is of the form: *S is P or not-P*.

[2] The thought-process of the teacher (speaker, writer, etc.) is always prominently a process of analysis—he has a *whole* before him and sets it forth to his audience—(pupils, hearers, readers). (Compare Bradley's

is thereby entitled to make a construction to which the designations S and P both belong, thus:

. Having this before his mind, he is entitled to say, not only that S is P, but also that P is S, that S is-not not-P, that not-P is not-S, etc. If he is informed that

S is not P

he is similarly entitled to make a construction in which S is separated from P, 

, and to say that P is not S, not-S is P, etc.

Again, if he accepts the statements—

M is P
S is M

he is entitled to the construction of something which is S, M, P, thus:

; and this entitles him to the further assertion *S is P;* for the thing which S and M and P taken in Extension denote, has in the *one extension* common to them all the *diverse intensions* signified by S, M, and P.

The gist of the last paragraph may be expressed in a self-contained Hypothetical thus:—

If M is P and S is M, then S is P

Principles of Logic, bk. ii., pt. i., ch. iii., § 4; Stout's *Analytic Psychology*, ii., 71; Sidwart's *Logic*, English translation, i., 25, 26.)

The thought-process of the learner, listener, reader, seeker, is always emphatically synthetic.

But no one can ever be permanently—hardly even momentarily—altogether in *one* of these attitudes. The teacher, in setting out his material, must be constantly getting fresh *aperçus*, grasping new connexions, annexing fresh facts. The learner or seeker who can consciously learn or seek to any purpose, must already have, and use, some store and background of knowledge.

This distinction of attitude, and corresponding divergences in past interpretations of Categoricals, is not only interesting but highly important—especially perhaps in connexion with the meaning of Inference and its place in logical theory.

And other Hypotheticals are reducible to a similar statement, *e.g.* :—

(*a*) If A is B
and B is C
and C is D
and D is E
then A is E

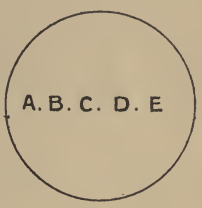


Fig. 1.

(*b*) If all A is B
and all B is C
and all C is D
and all D is E
then all A is E

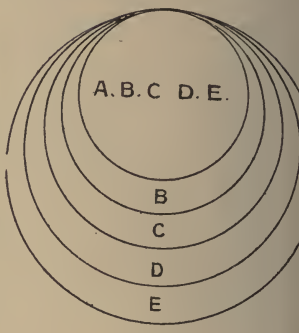


Fig. 2.

(*b*) may be represented diagrammatically by Fig. 1 or by Fig. 2 or by some combination of the two.

In Inference the identity-in-diversity which is inferred is given directly not in the premisses, but in the construction to which the premisses entitle the learner or seeker.

As much of the denotation of B, C, D and E as are predicable of A are in denotation identical with A; and of this one denotation or extension, the diverse intensions signified by *A*, *B*, *C*, *D*, *E taken in intension*, are predicated.

In accepting *S is P* as an appropriate symbolic expression of all affirmative Categoricals—the most general and 'abstract' expressions of such Categoricals, as $a = b$ is of equations—it is of course taken for granted that S stands for the whole of the Subject, and P for the whole of the Predicate, whatever the Subject and the Predicate may be, and that *is* signifies identity of denotation between them, without offering or attempting any *explanation*, by reference to origin or otherwise, of the co-existence in one denotation of the intensions concerned, or any discrimination of the differences by which one kind of Categorical may be distinguished from another. When *S is P* is used as symbolising Class-Propositions,—All R is Q, No R is Q, etc.—S stands for the explicitly quantified subject All R, and P for the implicitly quantified Predicate All or any Q, some Q. By *implicitly quantified* I mean that there is no explicit quantification, but that explicit quantification is justified.

If *S is P* stands for—

All Lions are carnivorous

S symbolises *All Lions*, P symbolises [*some*] *carnivorous*. Unless C were implicitly quantified, by *some*, thus limiting the 'distribution,' *Lions* must be understood to be coincident in denotation or extension with *carnivorous*, and thus to be also Tigers, Panthers, Wolves, Vultures, etc. Similarly with negative Categoricals. In: No Hellebores are fragrant, (H)(F), (= All H are not F) Hellebores is explicitly quantified by No (= All not), fragrant is implicitly quantified by All or Any, and

All Hellebores = *S*, *All fragrant* = *P*.

If this were not so, we should not be justified in inferring from No H are F, that No F are H.

In: Some beeches are not green-leaved, *beeches* is quantified explicitly by *some*, green-leaved is quantified implicitly by *Any*.

Some beeches = *S*
Any green-leaved = *P*.

The reason why O is inconvertible is not because there is any question about implicit quantification of the Predicate, but because when the [explicitly] quantified converse of O has been reached (No green-leaved things are some beeches), in deference to common usage (and therefore to ordinary thought) the quantification of its Predicate has to be dropped and the converse becomes: No green-leaved things are beeches. This of course involves an illegitimate extension of the denotation of *beeches*.[1]

In: All Planets move in elliptical orbits,
Jupiter is a Planet,
∴ Jupiter moves in an elliptical orbit,

moving in elliptical orbit must be understood to be implicitly quantified by *some*, otherwise Planets would be coincident with the things, whatever they are, which move in elliptical orbits—that is, with the whole extension of *moving in elliptical orbit*. In the conclusion, the extension of *moving in elliptical orbit* is restricted to the one-planet-extension of Jupiter, as, in the Minor Premiss, the extension of *Planet* is restricted to the extension of the Minor Term, Jupiter.

It is the Identity-in-diversity of affirmative Categoricals which justifies their conversion, with the implied quantification, and the pivot of Mediate Inference is a denotational identity of whole or part of the Middle Term in one Premiss with the whole or with part of its denotation in the other.

[1] Conversion of A and I, with the implied quantification, would be impossible unless there were denotational identity between Subject and Predicate. It is to be noted also that in many languages an adjective predicated agrees in gender and number with its Subject.

In the Planet-instance above, the denotation of the Middle Term in the Minor Premiss is identical with part of the denotation of the Middle Term in the Major Premiss. We may compare Thackeray's story of the priest and his first penitent quoted by Dr. Bosanquet (*Essentials of Logic*, pp. 140, 141) as an instance of what Dr. Bosanquet calls "inference from mere identity":—

"An old Abbé talking among a party of intimate friends happened to say: 'A priest has strange experiences; why, ladies, my first penitent was a murderer'. Upon this the principal nobleman of the neighbourhood enters the room: 'Ah, Abbé, here you are; do you know, ladies, I was the Abbé's first penitent, and I promise you my confession astonished him!'"

Here an unambiguous Middle Term—*the Abbé's first penitent*—unexpectedly reveals the horrifying fact that the principal nobleman of the neighbourhood is a murderer.

In this we have certainly an inference from 'identity'—not however 'mere' identity but denotational identity in intensional diversity. It would be interesting to be shown precisely how, in any case *without* identity of this sort,—without denotational or extensional identity—any inference whatever could be drawn.

The same principle of identity in diversity applies in the case of concrete Hypotheticals. Take *e.g.* this example: If Ferdinand marries Henrietta, he will be ruined. This may be expanded as follows:—

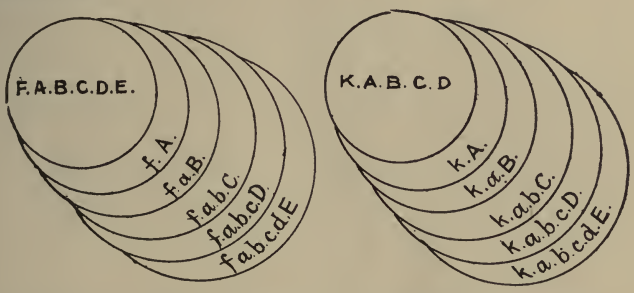
If F marries H (A), he will be responsible for her debts (B).
If B, he will be responsible for double his income (C).
If C, he will be unable to meet his responsibilities (D).
If D, he will be financially ruined (E).

It is the identity of Henrietta with a person who will spend double Ferdinand's income, and of Ferdinand with a person who marries Henrietta, with a person who will be responsible for her debts, and for double his income, and therefore unable to meet his responsibilities, that leads inevitably to the regrettable conclusion. If Ferdinand were a minor and his father a millionaire, F might not be B; if Henrietta were herself a millionaire, or if her expenditure would be only half Ferdinand's income, he would not be C; and so on.

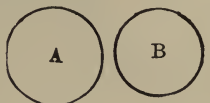
Again:—

If Kate marries Peter, she will be wretched, may mean—
If Kate marries Peter (A) she marries an old-fashioned miser (B).
If B, she will be half-starved (C).
If C, she will be wretched (D).

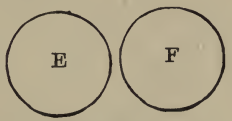
It is on the identity (in diversity) of Kate with a person who marries Peter, and therefore (the denotation of Peter being the denotation of a miser and therefore the denotation of a man who will half-starve his wife) with a person who marries a miser, and thus with a person who will be half-starved, that ensures her identity with a person who will be wretched. The two examples may be illustrated diagrammatically thus:—



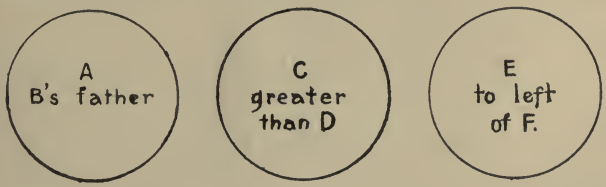
It would be easy but tedious to multiply examples.

How do the propositions which are what is called 'Relative' —*i.e.* propositions which state the relation to each other of two or more objects connected as members of a system, *e.g.* A is father of B, C is greater than D, E is to the left of F—how do these compare with assertions of the form *S is P*, *S is not P*? What *S is P* gives us is intensional diversity in identical denotation; in all Relatives we deal with two such denotations, which are correlated, and neither of which can be predicated of the other. Obviously in the above instances A *is not* B 

; C *is not* D

; E *is not* F 

; but A, although he is not B, is B's father, C although not D, is greater than D, E although not F, is to the left of F:—



We are constantly using Relatives in common speech in conjunction with the non-relative *S is P* form, and this form is easily imposed on Relatives when desired (as in the above examples). I do not regard the denotation assigned to Subjects or Predicates as implying existence in space or time, or indeed any particular kind of existence; no such implication could possibly attach to S and P in *S is P;* to admit the generality of the form *S is P* is to bar the implication—but intension cannot be, or be thought of, imagined or supposed, except as the intension of *something*, of some *that*, which has just as much (or as little) 'reality' as the qualities the intension, the what-ness, which it holds together in a denotational unity. We must be able to use propositions, and to have some general theory of import—*i.e.* of what propositions in general mean—before we can proceed to settle what precise kind or measure of 'existence' or 'reality' our Subjects and Predicates have.

Dr. Keynes, in the fourth edition of his *Formal Logic* allows that 'logical equations,' such as

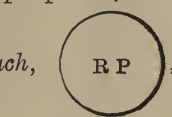
Equilateral triangles = equiangular triangles,

may be understood to assert *Identity of denotation in diversity of connotation.* It seems obvious that on this basis nothing but the recognition of implicit quantification is necessary in order to make acceptable my analysis of affirmative Categoricals in cases in which the terms are connotative. And then the way seems clear to an acceptance of it as quite general. *Ce n'est que le premier pas qui coûte*, and there is no witchcraft about connotation as distinct from intension. I may point out that in the alternative interpretations on page 178 of *Formal Logic*,[1] and in the passage of Mrs. Ladd Franklin mentioned in note 1 on page 179, the force of the copula is not referred to; in other words, we are not told exactly *how* the two aspects of Terms are to be 'taken account of' in the proposition, and this is the very point of my analysis; unless the *is* of the copula in *S is P* signifies denotational identity (intensional diversity is signified by the terms) S and P cannot be held together in the proposition, affirmative Class-propositions cannot be converted, there is no link to connect the premisses in mediate inference, we must lapse into the disintegration of Lotze's analysis, and say that

$$\text{S is P} = \begin{cases} \text{S is S} \\ \text{P is P} \\ \text{S is not P} \end{cases}$$

[1] Compare MIND, 1893, p. 452, etc.

The copula is sometimes stigmatised as a 'verbal device' of the most objectionable kind, and it is asked: What is there in the subject-matter of an assertion which corresponds to it, is it not irredeemably artificial? I admit of course that if, *e.g.*, I am eating a ripe peach, and say: This peach is ripe,

(1) the whole, *ripe peach*, 

, which is present to me,

is not a matter of words, and (2) that in particular there does not seem to be anything in that whole which corresponds to the copula to as great an extent as its being and qualities correspond to *this peach* and *ripe*. But if we admit words as a necessary device for the recording and communicating of knowledge, it must be allowed that the copula fulfils an important function very modestly and economically. Mill (quite naturally) placed disproportionate stress on connotation, but it is noticeable that he lays it down that the most common meaning which propositions of the form *S is P* are ever intended to convey is that whatever is denoted by (or has the Attributes connoted by) the Subject, has the Attributes connoted by the Predicate (Mill, *Logic*, bk. i., ch. v., § 4). This gives us identity of denotation in diversity of connotation: but Mill does not live up to this—it seems indeed as if he had hardly realised its force. It occurs to him when he is asking: *Between what* is connexion asserted in a Proposition? When he goes on to the further question: *What is the connexion* asserted? he enumerates *five* ultimate kinds of predication—afterwards reduced to *four*, *viz.:* Simple Existence, Order in Time, Order in Place, and Resemblance; and, so far as I remember, he makes no subsequent use of or reference to his one almost general analysis. The present analysis of *S is P* into *identity in diversity* is fundamentally similar to Mill's, but has a wider scope. It was first, I believe, put forward in print in a little book of mine in 1890. A view which I understand to be the same as mine was published by Prof. Frege in 1892; and in Mr. Bertrand Russell's *Principles of Mathematics* (1903), Frege's view is adopted with some reservations. On this view the science of Logic *is* the science of the "Laws of Thought" (if we choose to call them so). I should however like instead of Laws of Thought, and Law of Identity (1), Law of Contradiction (2), Law of Excluded Middle (3), to speak of Laws of Logic, to substitute for (1) a "Law of Identity in Diversity," of the form given above, to call (2) the Law of Consistency (since the Law of Contradiction excludes inconsistency), and to call (3) the Law of Coherence

(since it formulates a principle of Subject-Predicate connexion between all terms).

For affirmation, extension of S and P must be identical—otherwise the copula cannot be *is*—S, in intension, is different from P in intension. For significant affirmation, P must be intensionally different from S.

If the P and S of any *S is P* were taken purely in extension or denotation, we should have no use for Predicates that differed from their Subjects—S alone, or P alone, would be sufficient. If S and P are taken one in extension or denotation and the other in intension, it is clear that we can never say that one *is* the other, that the intension of one *is* the extension of the other.

And the attempt to take the S and P of an affirmative assertion in intension only, can lead to nothing but confusion and disaster—witness Lotze's reduction, referred to above, of *S is P* into—

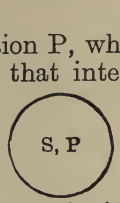
S is S
P is P
S is not P

(See Lotze's *Logic*, ch. ii., book i.; also MIND, 1893, pp. 449, etc.) Lotze's application of the so-called Law of Thought *A is A* to propositions of the form *S is P* is a *reductio ad absurdum* of a purely conceptual Logic. What *A is A* apparently means for him would be better expressed by *A-ness is A-ness*, for *A-ness* is never any-other-ness, it is no *not-A-ness*, it cannot be *B-ness* or *C-ness*. If this is taken into account, it becomes clear that *A is A* reduces us to a deadlock. If we begin with *A-ness is A-ness*, there we must end, and Lotze's conclusion above quoted is inevitable. But the moral I deduce is, not that we must end there, but that we must never begin there; we must recognise, with Locke, that "all affirmation is in concrete," and this brings us inevitably to the identity-of-extension-in-diversity-of-intension interpretation of *S is P*. We cannot assert one 'concept' (or intension) of another, but only that a denotation characterised by some intension (S) has another intension (P)—an intension which is compatible with, which co-exists with, the intension of S in one subject. To take Locke's example, we can say, *Man is mortal*, but we cannot say *Humanity is mortality*.

Lotze's difficulty about the interpretation of S is P, and similar difficulties felt by earlier logicians, seem to involve a failure to distinguish between—

(1) predicating of S an intension P which is incompatible with the intension of S and would involve its denial (presence of P is taken to imply absence of S);

(2) assigning to denotation S an intension P, which, while it is not intension S, is compatible with that intension and can co-exist with it in one denotation,



The difficulties above referred to vanish on the identity-of-extension-in-diversity-of-intension view of the interpretation of *S is P*, while on a purely conceptual or intensional view they are fatal to any coherent doctrine of propositional import.

It is only *identity of extension* that can hold together the diverse intensions in affirmation; it is only identity of extension that can give the necessary connexion in Inference, Immediate and Mediate (if not, it would not, in Mediate Inference be necessary to 'distribute' the Middle term—intensional sameness and an 'undistributed Middle' would suffice, and "Substitution of *Similars*" would be a valid principle of Inference). This is of course entirely compatible with the fact that intension may be, and constantly is, a guide to extension; *e.g.* it is because of the inseparable connexion of equality of sides in a triangle with equality of angles at the base, that I can affirm: *All* equilateral triangles have the angles at the base equal.

According to my use of Terms, *S is-not P* (*S is not-P*) asserts that the intension of P is absent from what is denoted by S (not that the intension of S is diverse from the Intension of P—*that* goes without saying and applies in *S is P*)—the presence together with the absence of P in one Subject, *S is P* and *S is not P*, cannot be asserted, P and not-P as assigned to one denotation are incompatible. Thus in every assertion *S is P*, the presence of P is necessarily accompanied by the absence of not-P. And similarly, the presence of not-P is necessarily accompanied by the absence of P, while Assertion and Inference, as I contend, depend upon Identity of Extension (or Denotation) in Diversity of Intension. The principle here affirmed—that there is a formal and necessary connexion of Attributes that is predicable of every Subject of predication—may possibly be regarded as a formal Principle of Inductive Inference: it asserts (not only that the presence and the absence of P are incompatible but also) *that the presence of P* and the *absence of not-P* are inseparably conjoined. And of every subject (S) the presence or absence of any predicate (P) is predicable (L. of Excluded Middle). Thus of every subject (S) the presence or absence of every Predicate in the world (every P) may be asserted. This

measure of uniform connexion and uniform incompatibility is self-evident.

What inseparable connexions and incompatibilities there actually are beyond these purely formal, or most general, ones must be learned by appeal to experience. We cannot say *S is P* or *A is B* until (directly or indirectly) we have found some case in which S *is* P, or A *is* B.

My contention is that my Law of Identity in Diversity first makes (theoretically) possible a satisfactory statement, in *S is P*, *S is not P* form, of the Laws of Contradiction and Excluded Middle, and that it, together with them, does furnish a real and adequate basis and starting-point of syllogistic Logic. Granted propositions of the form *S is P* with the identity-in-diversity analysis and the corresponding analysis of *S is not P*, together with the already accepted Laws of Contradiction and Excluded Middle, the whole traditional scheme of Immediate and Mediate Inference can be built up systematically and explicitly, from the foundations. In Logic, as in all thinking, propositions of forms *S is P*, *S is not P*, have of course always been used. Thought cannot live and move without propositions of this form; but so far as I know they have not hitherto received a satisfactory and commonly accepted general analysis, an explicit recognition by logicians that they are the primary and fundamental forms of significant assertion, needed even for a satisfactory expression of the Law of Contradiction and the Law of Excluded Middle. It is the Law of Identity *A is A* which has stood in the way. And it is impossible really to get rid of this tautology, posing as the self-evident and significant basis, until it is seen not only that we must admit *A is B*, not only that 'mere identity' is our undoing, not only that for significant assertion we must have an identity in difference, must recognise that *A is B* is preferable to *A is A*. All this does not avail until we can give a clear account of what *exactly* is meant by the identity-in-difference of *A is B*. There are, it is admitted, no more ambiguous words in Philosophy than Identity and Difference, and there are none of which the meaning has been more elusive, none more misleading. Even some of the acutest thinkers do not seem to have escaped the snare. The source of the ambiguity is not far to seek, for of the two fundamental kinds of Sameness, (1) extensional or denotational sameness, and (2) qualitative sameness, (2) is very constantly (though by no means always) a sign of (1). *E.g.* if a stowaway is observed to have all the published characteristics of an escaped criminal, the similarity is regarded as an indication of 'identity'. It may

however turn out to be a case of 'mistaken identity'. For recognition of *likeness* there must be a comparison of two, though the two may be only *one* thing at *two* times. It is partly because all this is so simple, that it has proved so insidious. But though simple, it is absolutely primary. The *A is A* difficulty has been with us since, at any rate, the appearance of the Eleatic Stranger in the *Sophistes*, who reports the view of certain 'tyros' that of *man* we can only assert *man*, of *good* we can only predicate *good*. Neither the Eleatic Stranger nor any one else in the *Sophistes* provides a satisfactory solution of the puzzle, though the Stranger shows both common-sense and logical insight when he lays down the principle that those who deny the possibility of the assertion, concerning any subject, of a predicate different from itself, are confuted out of their own mouths, they "are obliged to admit it implicitly and involuntarily in their common forms of speech. They cannot carry on a conversation without it, and they thus serve as a perpetual refutation of their own doctrine." From that day to this the solution of the puzzle has it seems been still to seek; though from the time when the distinction between Extension (Denotation) and Intension, That-ness and What-ness, was clearly drawn, it ought to have been easy. Jevons, I believe (like Mill and many other able thinkers), came in view of it—but slipped aside into hopeless, because concealed, confusion in his "great rule of inference," the "Substitution of *Similars*" (*Principles of Science*, p. 9, 3rd edition).

Lotze has the merit of having seen that propositions of form *S is P* needed to be accommodated with the Laws of Thought; but as he could not reconcile *S is P* with *A is A*, he gave up (professedly) *S is P*. The Eleatic Stranger could have taught him better.

IV.—MOTIVE.

By J. L. Stocks.

In ordinary speech motives are commonly said to be good or bad, rational or irrational, selfish or disinterested, simple or complex, conscious or unconscious or half-conscious; and there are innumerable other epithets, lending themselves on the whole, perhaps, as Bentham said, more to abuse than compliment, which may be attached to the word. But the term is not often defined, and such definitions of it as I have come across seem to rule out many if not most of these epithets as illegitimate.

Perhaps the popular distinction which is most uniformly excluded by definitions of the term 'motive' is that of conscious and unconscious. This distinction certainly is familiar and important in our ordinary use of the word. When we talk of the hidden motives of an act we mean motives hidden not only from the spectator but even from the agent himself. There is a generally recognised meaning in the statement—'I thought at the time I was acting from disinterested motives; but I see now that it was self-interest which prompted me to act as I did'. Or—to take another instance—I suppose it happens to all of us from time to time to become involved in a heated argument. In the midst of such an argument it is almost impossible to believe that our vehemence is not the direct result of an earnest desire that truth shall prevail: but afterwards do we not often question our own motives? It may occur to us in retrospect that the opinions which our opponent A was advancing were really just the same as those which had previously given no offence, or even perhaps won assent, in the mouth of B. 'Oh, well,' we may say, 'there are some people with whom it is impossible to agree, and A is one of them.' The unconscious motive then was antagonism to A. The fact is perhaps even clearer in our accounts of the actions of nations. Do those who maintain that the real motive of the Peloponnesian War was the trade jealousy of Athens and Corinth think that Pericles or the Peloponnesian leaders were aware of that fact? They may, but they need not. They could still

maintain it even though it were proved that no leader on either side took that view of the fact, and that the common soldiers fought either without asking for a reason at all or in the belief that they were struggling for justice and liberty. The same might be said of our own recent South African war. Those who maintain that the financiers were 'at the bottom of it' know that neither the generals nor the soldiers fought knowingly for trade, and that the financiers in question would quite honestly repudiate the suggestion that they engineered the war for the benefit of their own pockets. Yet the war may have been none the less a trade war, even though none of the agents responsible or irresponsible ever to his knowledge allowed trade to count at all in any single decision. What, again, is the economic interpretation of history if not one vast assertion that it is the unconscious motive that counts, that, while orators and statesmen and men in the street talk of the eternal verities and of the unwritten laws of international justice—that behind and beyond all the froth and foam there is a single operative principle which is not the less but the more effective because it is unsuspected? Readers of Thomas Hardy's poem 'The Dynasts' will remember how the immanent unconscious Will is made manifest to the supernatural vision of the Spirits which observe as spectators the human drama.

A new and penetrating light descends on the spectacle, endowing men and things with a seeming transparency, and exhibiting as one organism the anatomy of life and movement in all humanity and vitalised matter included in the display.

Spirit of the Pities. Amid this scene of bodies substantive
Strange waves I sight like winds grown visible,
Which bear men's forms on their innumerous coils,
Twining and serpentining through and through. . . .
Spirit of the Years. These are the Prime Volitions,—fibrils, veins,
Will-tissues, nerves, and pulses of the Cause,
That heave throughout the Earth's compositure.
Their sum is like the lobule of a Brain
Evolving always that it wots not of;
A Brain whose whole connotes the Everywhere,
And whose procedure may but be discerned
By phantom eyes like ours; the while unguessed
Of those it stirs, who (even as ye do) dream
Their motions free, their orderings supreme;
Each life apart from each, with power to mete
Its own day's measures; balanced, self-complete,
Though they subsist but atoms of the One
Labouring thro' all, divisible from none.

This is the vision of the one world-will, operating through consciousness, but unconscious, 'whose meaning we may muse on, never learn'.

These instances are sufficient to show that some meaning however vague attaches to the proposition 'the real motive of an act may be unknown to the agent' or 'a motive may be unconscious'. But if these phrases have any meaning, what are we to make of the considered judgments of the philosophers? 'A motive,' says Schopenhauer, 'is causality seen from within.' Is the unseen motive then simply causality? Höffding, in his *Psychology*, defines motive as 'the feeling excited by the idea of the end'.[1] T. H. Green (*Prol.*, § 87) makes motive the 'determining cause' of human action, and defines it as 'an idea of an end which a self-conscious subject presents to itself, and which it strives and tends to realise'. Neither of these definitions leaves any place for the unknown or unconscious motive. Nor is that the only point in which they conflict with the ordinary use of the word. If motive is 'the feeling excited by the imagination of an end,' it is difficult to see how it should be called reasonable or the reverse, simple or complex; still more perhaps how it should be interested or disinterested—or is it the nature of the end which arouses the feeling in virtue of which it is selfish or unselfish? or is it again the fact that this feeling should be excited by this end that justifies the epithets? There seems to be no simple answer to these questions. If again the motive is the end aimed at, we may ask whether an end in itself can be said to be selfish, as a motive is said to be selfish, or whether it can in itself be unreasonable, or why we distinguish 'motive' from 'intention,' or again (a curious point of language) why in that case we tend to speak always of our 'motives' rather than of our 'motive'.

What, then, is Motive? And is it possible to arrive at some general statement of its meaning which shall be compatible with the popular distinctions, and bring together in one harmony the philosopher, the novelist, and the man?

Provisionally and in order to clear the ground I would advance the proposition that 'motive is that characteristic tendency or disposition of a man in virtue of which a given act possesses an attraction for him'.

By way of explanation let us consider, first, the relation of motive to reflexion or deliberation. It is clear that we do not attribute motives to non-reflective beings—we do not talk of the motives of a dog or a donkey: we attribute motives only to beings capable of reflecting on their action, and to them (as a rule) only in accounting for actions chosen

[1] "Das durch die Vorstellung vom Zweek erregte Gefühl." Eng. Tr., p. 324.

after deliberation. Purely instinctive or impulsive action is not motived. If a man is hungry and eats, if a soldier in the presence of the enemy is frightened and runs away, we should not naturally talk of the motives of hunger or terror. If on the other hand a man who is not hungry eats and a soldier who is not frightened runs away in the face of the enemy, we certainly should demand and invent a motive to account for the action. Curiosity may lead a man to eat when not hungry, and flight may be a ruse to draw the enemy into a trap. The action dictated by impulse or instinct is not directed to any end beyond itself: the hungry man is not fulfilling a carefully pondered design of eating when hungry; nor is the soldier acting upon a deliberate resolution at all costs to safeguard his own life. The second pair of cases on the other hand are instances of actions involving purpose and consequently some degree of reflection. In them we distinguish the act—the eating, the running away—from the purpose—to find out what this new kind of fruit tastes like, to entrap the enemy. In one case we readily specify the motive as 'curiosity'; in the other case it would not be so easy, and in ordinary speech we should probably identify the motive with the purpose. If that is the case, clearly we shall be in difficulties. But for the moment let us confine ourselves to the single point that the word motive is only used in connexion with considered action.

A second point which is worth noticing is that as a rule at any rate in giving the motive of an act we exhibit the act as the passing manifestation of a general direction of the will. We appeal from the particular decision to a relatively stable persistent something in the character of the agent. The curiosity manifest in the eating existed before the act and, though satisfied, exists after it. It is capable of innumerable other applications in different circumstances. The same is true of the jealousy which is the motive of crime, or the fear which is the motive of deliberate treachery. I do not mean to imply that cowardice or meanness or extravagance or any other weakness of character is readily attributed to an act as its motive. In point of generality motive seems to stand midway between 'habits' of this kind and the particular act or intention. (Perhaps the Aristotelian distinction of ἕξις and διάθεσις, habit and disposition, might be used to express the relation of the motive of the coward to his cowardice.) Tentatively then we may formulate a second conclusion—that the motive is always more general and less transitory than that which it is introduced to explain.

Thirdly, what is the relation of 'motive' to 'intention'?

In a recent text-book of Ethics[1] Prof. Dewey takes as the central point of his exposition the contrast between systems which lay the chief stress on the goodness of the intention or the intended consequences of an act, and those which emphasise goodness or purity of motive. He points out that in common speech motive and intention are often used interchangeably. 'Ordinary speech,' he asserts,

> says indifferently that a man's motive in writing a letter was to warn the person addressed or was friendliness. According to Bentham and Mill, only so-called states of consciousness in which one feels friendly can be called motive; the object aimed at, the warning of the person, is intention, not motive. Again ordinary speech says either that a doctor's intention was to relieve his patient, or that it was kind and proper, although the act turned out badly. But the utilitarians would insist that only the first usage is correct, the latter confounding intent with motive. In general, such large terms as ambition, revenge, benevolence, patriotism, justice, avarice, are used to signify both motives and aims; both dispositions *from* which one acts and results *for* which one acts. It is the gist of the following discussion that common speech is essentially correct in this interchangeable use of intention and motive. The same set of real facts, the entire voluntary act, is pointed to by both terms.

Thus what Prof. Dewey tries to prove is that the controversy between these contrasted ethical doctrines

> depends upon an underlying misapprehension. Their common error . . . lies in trying to split a voluntary act which is single and entire into two unrelated parts, the one termed 'inner' the other 'outer,' the one called 'motive' the other 'end'.

Leaving for a moment the merits of Prof. Dewey's contention, I should begin by objecting that the facts of ordinary speech from which it professes to start are to some extent illusory. Ambition, revenge, benevolence, patriotism, avarice, are certainly employed to designate motives, but never, I believe, even by the most careless users of language or in the widest possible sense of 'intention,' to stand for an intention. And justice is not even a motive, though the love of justice may be, still less an intention. Again, I cannot see that it shows any confounding of motive and intent to say that a doctor's intention to relieve a patient, though it ended by killing him, was 'kind and proper'. Motive and intent are surely distinguished when the act or intention is called kind and the motive kindness, unless 'table' and 'quality' are confused when a table is called round and a quality roundness. Therefore, though I admit that a presumption of confusion may be drawn from the statement that a 'man's motive in writing a letter was to warn the person addressed'

[1] *Ethics*. By J. Dewey and J. H. Tufts (G. Bell & Sons). See pp. 248 and 237.

(which is similar to a case already noticed), yet it seems to me that the distinction between intention and motive is sufficiently familiar and persistent in ordinary speech to justify an attempt to fix it by definition. With regard to the alleged instances of the confusion of the two terms, I should observe in the first place that though we recognise a sort of propriety in the term motive as used, 'object' or 'intention' would be more natural. And the same is perhaps true of the statement that a soldier's 'motive' in running away was to draw the enemy into a trap. In the second place it should be noticed that, while it would be meaningless to ask the motive of an agent's benevolence or friendliness or patriotism, the warning or trapping of the enemy alleged as motives in these other cases are themselves motived—the warning by friendliness (for instance), the trapping by patriotism or by whatever the motives of a soldier on the battlefield may be supposed to be.

Further, it may be doubted whether the assertion that the motive of an act was A and the assertion that its intention was A really mean the same thing. By an intention we mean something actually present to the mind of the agent at the moment of action: a motive is not usually at least a consideration of this kind at all. It is something (as we should say) at the back of a man's mind which influences his decision. If therefore there is any propriety in using the term motive of what may also be termed an intention, it may be suggested that it is to be found in the fact that a deliberately formed intention may drop into the background of consciousness and yet continue to be operative in our decisions. An intention may under certain circumstances become a sort of disposition influencing decision instead of a consideration affecting it. In the case of a soldier or a doctor this is particularly likely to occur. For a doctor, as Aristotle says, does not debate whether he shall heal, nor even we might add how he shall heal: he heals by habit: and a soldier does not consider whether he shall fight: he knew he would have to when he became a soldier. In each is operative a sort of vague corporate intention to do what he has to do; and often no more precise motive is to be assigned to their actions. It is, then, I think, in these cases the vagueness and remoteness of the intention which gives the term motive its propriety.

In the light of these reflections let us return to Green's definition of motive—the 'determining cause' of distinctively human action—as 'an idea of an end, which a self-conscious subject presents to itself and which it strives and tends

to realise'. This definition, as we saw, cannot be said fairly to characterise the motives—jealousy, revenge, ambition, etc. —which we ordinarily talk about. These are not ends at all and are not facts of which the agent in acting is necessarily aware. But if Green is not defining motive as it is, he may perhaps be said to be defining motive as it ought to be. As moral agents it is our ambition to make our Wills insusceptible to all considerations and influences except the character of the end pursued. 'What is best?' is the only question relevant to a moral decision; and to a perfect will the answer to that question will be the sole and inevitable determinant of action. It makes no real difference whether we say in such a case that there is no motive but only an intention, or that motive and intention are coincident. There is really no motive as distinct from intention. The latter phrase if correct suggests an alternative answer to the question provoked by the interchangeable use of motive and intention. If, we might say, the warning letter was written out of friendliness to the man warned, it is really incorrect to say that its motive was to 'warn the person addressed'. The case of the soldier or the doctor is different. The doctor when he heals, the soldier when he does his best to defeat the enemy, is doing his duty; and if the conditions of these acts are not complicated by the intrusion of special and personal feelings, it would perhaps be fair to say that motive is coincident with intention. And it is this coincidence of the two which we seem to have in mind when we speak of disinterested action. We do not mean that the agent had no interest in what he did; but that the act recommended itself on it own merits, without reinforcement from accidentally sympathetic tendencies.

We may now summarise our discussion of the relation of motive to intention as follows. As a rule, in ordinary speech, motive is distinguished from intention; and the distinction is a real one. Most considered acts have a motive or motives separate and distinguishable from the intention. Sometimes, however, in the perfect will and, on a lower plane, in the recurrent duties of the routine of life, motive is swallowed up in intention, or, to put the same fact in another way, there is no obscure factor distinct from the act contemplated which influences the direction of the Will. (I put the doctor and the soldier on 'a lower plane,' because while we rightly demand of the perfect will a thorough understanding of the nature and bearing of its action, their actions, though equally 'disinterested,' are not equally understood.)

Fourthly, we must now consider the relation of motive to feeling. There is a common superstition—not perhaps so general as it once was, but common even now and even

among quite reputable philosopher-psychologists—that there is some particularly close connexion between motive and feeling. Höffding, in the definition already quoted, identifies motive with a particular kind of feeling, though he does not attempt to specify the distinctive characteristics of motive feeling as feeling.[1] Rather improperly, as I think (though the device is popular with psychologists), the differentia which he gives is derived not from an analysis of the feeling in question, but is simply a reference to its cause or occasion. Motive is 'the feeling excited by the idea of the end'. Again, it was the much-vaunted discovery of the older Hedonists that pleasure is the only possible motive to action; and pleasure is one of the few terms which beyond dispute fall within the term feeling. Bentham's long and confused analysis of the meaning of 'motive' ends with the assertion that 'a motive is substantially nothing more than pleasure or pain operating in a certain manner'. Similarly Locke had said (in a familiar passage): 'The motive for continuing in the same state or action, is only the present satisfaction in it; the motive to change is always some uneasiness: nothing setting us upon the change of state, or upon any new action, but some uneasiness. This is the great motive that works on the mind to put it upon action, which for shortness' sake we will call determining of the will.'[2] As usual Locke is more consistent than his imitators. Locke really means what he says, that the *feeling* of pleasure or pain is the *motive* to action or inaction, but what Bentham means is that the prospect of future pleasant feeling is the only prospect which attracts—a very different proposition, which makes it possible to talk of pleasure loosely as a motive to change, but at the same time robs hedonism of much of its psychological plausibility. (It may be remarked in justice to Bentham that in addition to what he calls the 'motive in prospect' (*i.e.* the prospect of pleasure or pain) he recognises also a 'motive in esse,' which sometimes at any rate is pleasure or pain actually experienced. Thus he would in the last resort probably be driven back upon Locke's position: but his account is complicated and obscure, and it would not be worth while to examine it in the present connexion.) Now the presupposition of all theories of the Will which find the motive of action in feeling is surely one and the same. It is that if Will is to be understood it must be

[1] Indeed in the exposition which follows the definition quoted he appears to surrender the identification of motive with feeling. If motive is what moves us to act, and 'the aim embraced by the idea . . . determines the feeling' (p. 345), then the aim itself or the idea would seem to have a better right than the feeling to be called 'motive'.

[2] *Essay* (ed. Fraser), vol. i., p. 331.

interpreted in terms of physical causation. The determination of the Will is regarded as an event, the cause of which is to be looked for in a preceding event. The reflective consideration, therefore, of alternative actions, which adduces reasons for preferring this to that, is not the true cause of the preference of the one to the other. Reflective decision has its cause or reason, but the reason of the conclusion is not a mediating term by which an obscure logical force called validity is communicated to the conclusion. The reason comes into being at the same moment as the conclusion and is itself a necessary part of the conclusion. But an event in the causal series is not allowed to contain its ground within itself. Where then is the cause of action to be found? The choice which is an event in consciousness should have a cause in an antecedent event in consciousness. It would be unreasonable (for reasons already explained) to suppose that what appears to determine decision really determines it. But feeling is the only element in consciousness which does not appear to influence decision. Therefore feeling is what determines the will. Or, we might put it thus, the cause or motive of action is something hidden; feeling is something hidden: therefore feeling is the cause or motive of action. I need not ask whether such reasoning would be permitted in the physical sciences, because, whatever Will is, its determinations are not events of the same kind as the fall of a stone and cannot be explained by the same methods.

My interpretation however of this psychology may be disputed, and in that case I fall back on a simpler and more obvious objection. It is surely amazing that these eminent philosophers should never have asked themselves the question —why is it, if motive is really feeling, that neither pleasure nor pain are ever alleged as the motives of action? Why is it that avarice, revenge, jealousy, and the other motives so freely imputed to friends and criminals, are none of them feelings? Or if they did ask these questions, it is even more astonishing that they should have avoided the obvious answer —Because by motive we do not mean feeling or any kind of feeling. On this ground alone I think the doctrine that motive is feeling stands condemned.

But, it may be asked, if motive is not feeling and not (as a rule) intention, what is it? Before attempting to answer this question let us recall our position. The term motive, we saw, is only used in connexion with considered action, and that which is assigned to an act as its motive is in most cases not itself a choice or decision, past or present, general or particular; rather it is some tendency or bent of the will, and thus more general than any particular determination of

the will, though less general than habits of character such as cowardice or generosity. When motive is not a tendency of this kind, it is an intention, an end apprehended and accepted in choosing the means and the sole determinant of that choice. In this last case we were uncertain whether it was proper to speak of motive at all; but we were clear that there was no motive as distinct from the intention. In discussing the identification of motive and feeling we have really been discussing only the activity of the imperfect will, in which motive is distinct from intention; for in the good will there appears to be no element or agency extraneous to deliberation influencing its decisions.

Now in all action upon consideration what is chosen, if not necessarily a 'this-*before*-that,' is always a 'this-*for-the-sake-of*-that,' an act as a means to an end. What is considered is possibilities of action and what is chosen is an act. But that which influences the mind must be something in that which is before the mind; what influences choice must be something in the chosen. It is true that in some secondary sense the influence may be said to reside in a man's character, since it is from his character that his projects of action draw their attractiveness or repulsiveness. In the same way we sometimes trace the ready assent of one man to an argument which another rejects to some difference in their characters. Nevertheless, it remains true that it was because the project or the argument was what it was that they being what they were greeted it as they did. And when we infer from one to the other we infer in the first instance from the act to the character and not from the character to the act. For the act is to some extent plain and obvious to all, but the character is only to be guessed at.

It may therefore be presumed that when we impute a motive to an act we are inferring from something in the act (or more probably in the series of acts of which it is the latest member) to something in the character of the agent. From what in the act? The answer is so obvious as hardly to require statement—from the result which *de facto* it is likely to bring about. In order to arrive at the conclusion that a man is mean it is neither necessary nor usual to scrutinise carefully little signs of speech and gesture or to watch, like a novelist, the waves of emotion which leave their passing traces upon the agent's features; it is enough to know that in spite of countless differences of circumstance and suggestion the same general tendency may be observed in all transactions in which money is involved—to spend as little as possible. The delinquent, put upon his defence, may allege in each case the most irreproachable intention; and his

account of his deliberations may be substantially correct: yet he will not get his verdict. For in the court of moral claims the ultimate, indeed the only, evidence of character or motive is action; and the only question which is or ought to be asked is 'what have you done?'

From this it would seem to follow that the distinction between the motive and intention of an act depends upon a distinction between its actual or probable and its intended issue. ('Probable' rather than 'actual' because the standard by which we judge is the expectation which a fair-minded man of average intelligence would in the circumstances of the agent form as to the issue of the act.) But this distinction, we must now observe, is not present in all cases in which the motive is distinguished from the intention. For instance, in the case of a warning letter addressed to a friend, the intention is clearly distinct from the motive, friendliness; but there is no dissidence of the probable and contemplated issue analogous to that observed in the economy of the mean man. Now the foregoing argument has assumed that a motive, in the sense of a disposition which accounts for the act, cannot as such be a factor in deliberation. But disposition or motive in this sense means a tendency in action to pursue a certain kind of end: meanness, for instance, is a tendency to keep one's wealth as far as possible intact. In a sense, then, all motives in this the usual use of the word are unconscious. But there is another sense in which some are conscious, some unconscious. The man who wrote the warning letter, let us suppose, reflected that as a friend he could do no less than warn Jones of the danger he was in. The motive, friendliness, was in that case represented by his awareness that the act was not simply the helping of a man in danger, but the helping of a friend in danger. The letter was in thought addressed not to Jones but to 'my friend, Jones' or 'poor old Jones'. Motive and intention are thus not contrasted or conflicting but the deliberate expression the one of the other. The Consciousness of a motive, then, means the attention to that in the act adopted which makes it of service to the realisation of the end which motive is the disposition to pursue.

We have now sufficient ground, I think, for accepting the propositions that motive is best defined by reference to end, and that the difference between conscious, half-conscious, and unconscious motive lies in the different degrees of clearness and obscurity with which the true nature of the act adopted is apprehended by the agent. Of course, it may be asked, how can a man be moved by an element in his choice of which he is unaware? This is a real difficulty, but one

which goes far beyond the problem with which we are dealing. The same difficulty in a different form perplexes our consideration of the relation of thought to perception, and its solution would (I almost think) be the solution of the problem of error. The temptation is to fly for refuge to categories of causation, whose assistance is purely illusory. We are inclined to think that we have advanced the problem when, on these lines, we think of the Will as (so to speak) pushed from behind instead of drawn on from in front. In that way there is no salvation. Instead, we must in spite of every difficulty keep to categories of cognition. We must think of the unconscious motive as operating in and through apprehension. The act *is* suitable to one of those obscure purposes, which under the names of jealousy, avarice, etc., are alleged as motives: and that fact, though not reflectively distinguished, is none the less in some dim perceptual manner known and counted on. The will, not conscious of itself, is yet conscious of all that it enacts.

There is no longer any need for a sharp distinction between character and motive, or between the motive generosity and the virtue which goes by the same name. Action is character in activity and motive is that side of character from which a given act is more particularly thought to proceed. We have already noticed that in the perfect will (though not there alone) it is difficult to speak of motive as unambiguously as on the lower moral planes, and we have to some extent explained this fact by reference to what is ordinarily called the disinterestedness of such action. Our present point of view suggests a complementary analysis. In the lop-sided disharmonious activities of normal imperfect humanity, we see character moving, like an ill-made and ill-weighted ship, with much creaking and straining of timbers, uneasily and unevenly from point to point. In the vagaries of its wayward progress we trace a permanent 'list' to port or starboard—a persistent but unconscious motive. But if the boat were better made or better manned, she would complain less and effect more. There would be no list to port or starboard, no motive but wind and tiller. The image is no doubt inadequate; but what I mean it to suggest is this. The imperfectly developed character betrays in action a number of dimly apprehended tendencies, purposes which are not yet purposes in the full sense, which are unreconciled and indeed irreconcilable with one another: of these now this one and now that is the more prominent. In such a character, by a right and proper abstraction, inferring in the way explained from act to character, we refer now to one now to another element as the

motive of action; generalising further we see these motives issuing from habits of action to which we give names as virtues and vices; and finally by a yet wider sweep of generalisation we sum up the whole trend of action as character. Out of these chaotic purposes the hard necessity of living and the routine of life will of itself inevitably fashion a sort of unity, a single purpose. But it is for us by our conduct to decide whether the unity to which we move shall be largely dumb and unconscious like the purposes out of which it grows or conscious and self-expressing. The moral effort is the attempt to attain this harmony, in which the reflective determination is the expression, not of this element to the exclusion of that, but of the whole character. In the good will, the character, now one and indivisible, is poured out whole in action, and finds its unity, where alone unity is found, in knowledge. The good will only does what it intends and knows what it does.

Thus the moral motive is distinguished almost as sharply as even Kant distinguished it from every other motive whatever. But the distinction after all is only one of degree: the will in the individual, in the state, perhaps also in the world, slowly and painfully comes to the knowledge of itself, which is its goal.

Early in this paper I quoted from Thomas Hardy the poetic expression of the Unconscious World Will—'the dreaming, dark, dumb Thing, that turns the handle of this idle Show'. I will now conclude with a quotation from the last page of his poem which suggests the hope that the Immanent Will is groping its way towards consciousness of itself.

Last as first the question rings
Of the Will's long travailings;
Why the All-mover,
Why the All-prover
Ever urges on and measures out the droning tune of Things;

Heaving dumbly as we deem,
Moulding numbly as in dream,
Apprehending not how fare the sentient subjects of Its scheme.

Nay;—shall not Its blindness break?
Yea, must not Its heart awake,
Promptly tending to Its mending
In a genial germing purpose, and for lovingkindness' sake?

Should it never curb or cure
Aught whatever those endure
Whom it quickens, let them darkle to extinction swift and sure—

But—a stirring thrills the air
Like to sounds of joyance there
That the rages of the ages
Shall be cancelled, and deliverance offered from the darts that were,
Consciousness the Will informing, till It fashion all things fair!

V.—DISCUSSIONS.

ON THE DISTINCTION BETWEEN WAKING AND DREAMING.

Upon what principle we distinguish waking and dreaming is a problem which can be outlined symmetrically; there are two facts and two fancies. The facts, given for what they are worth, appear to be these: in waking we take dreams to be hallucinatory, but the standpoint of dreaming is not converse; and secondly, we are sharply aware of a contrast when we wake up, but not necessarily of a change when we go to sleep. The fancies seem, for once in a way, to be no more illuminating than the facts. A common distinction between waking and dreaming is made in point of vividness; but the usual addition, that it is the waking state which is to be the more vivid, shows the ambiguity of the test. In the terror *qui per tenebras repit* nearly every one notes a fine psychological importunity, of stronger effect since waking life is less and less confronted with *pestes quæ palam spargunt mortem.* Dream-fear may or may not be interpreted as due to the likelihood that when the trees rocked the anthropoids would fall; but the intensity of the fear defies denial, and if the waking consciousness is to be the more vivid we shall—with Hume—have to explain rather urgently that 'the force of our mental actions . . . is not to be measured by the apparent agitation of the mind'.

The other fancy is that dreaming is distinguishable because it is inconsistent. 'Consistency' may first be taken in its roughest sense, *viz.*, probability. Even if it is granted that all dreams are improbable, no line between waking and dreaming can so be drawn; thus, suppose I dream that I go for a bathe, and on turning to the bank again I see a hippopotamus—"That is what I mean," says the opponent; "banal enough as a nightmare, but in real life—!" Well, in the hop-fields of Kent some quite credible constables, it was said a few years back, reported their cognisance of a casual pachyderm. Unbelief would have cordially vexed these officers. "Your dialectic," the sergeant would have complained, "has been unjust to our elephant. In my profession men unlearn probability and its false ideals. A thorough-going mechanical system can never be complete; and a plot-interest, embodied in all events that happen, is never actual." True; and his mention of a plot-interest recalls a marked feature of dreaming; for sometimes a dream-presentation,

for instance the landscape in a dream, has a singleness of expression informing the details, and an immediacy and self-justification, which waking experience does not easily rival. It does rival such qualities now and then, and in any case the discussion must not end so simply; otherwise the needed distinction might be found in the phrase *das Leben ist nicht ein Traum, aber es sollte einer sein.*

Consistency in a stricter sense forms a test applicable in three ways. A dream may be said to be inconsistent in itself; but in that case the standard either distinguishes nothing or confounds everything. If ' provisionally inconsistent ' is what is meant, then many dreams are consistent. If ultimate consistency is intended, then all experience seems inconsistent; any spaced object, any timed happening, is still a fresh-springing comedy of contradiction—but there is no need to labour the obvious here. Another application of the test is this: dreams are inconsistent with our waking states. There is still left, no doubt, an obscurity—on what principle do we believe in which state? However, that point can be shirked; for in fact dreams are not always inconsistent with the waking state. Let me this time have a simpler dream: one night it seems to me that I lie in bed, and reflect on the difference between thinking and picturing; suddenly I do not remember what Kant says about schematism; I must get up and go into the next room where there is a *Kritik der reinen Vernunft* lying open on the table. I read a passage, and then, happy and mystified, I go back to bed; when I am in bed I hear the leaves of the book being turned by the breeze. Upon what principle do I later judge this to be a dream? " Why," says the opponent, " the electric light would show you if measurements were exact enough." Then let the occasion have been very early in the morning at midsummer, when daylight should not be denied even to a believer in Kant.

A Cartesian gives the third rendering: When we wake up, we are aware of a sudden change; and this gives us the clue for assuming two distinct states. Now, we notice that the state into which we change to-day is more or less connected with the state into which we changed on the previous morning—the instalments run on and on, hanging roughly together; but that other state, the one out of which we change, is on each occasion a lonely incoherency, without introductory or resumptive neighbours. So the waking state is coherent in a way, while our dreams are utterly incoherent.

By understanding consistency as ' more or less coherent resumption,' the Cartesian raises four questions. Does to-day's waking resume the waking life of yesterday? It does. Can waking take up a dream-story? and can dreaming take up the story of waking life? Unless it is impossible ever to mistake a past dream for a waking experience, I must say yes and yes. Can to-night's dreaming carry on last night's dreaming? The Cartesian must say Never. " Serial hallucinations! " he protests; " Once allow even

the possibility of them, and you will find no distinction between waking and dreaming ".

It is indeed plain that the two states are not yet distinguished; and the cause of the failure can already be suspected. From the isolated individual mind there may perhaps be elicited various sorts of subjectivism, but no kind of cognition. The discussion has paid the common debt of things Cartesian, and has followed the other unpremeditated proofs of the grand central truism that 'objective' means 'shared,' and that it is therefore a far cry to objectivity when we set out from the unshareable. Hence for a discernment of dreams the criterion is now indicated; I must appeal to more than one consciousness. What is dreamed by one is a dream; what is dreamed by several is cognition.

At this both the philosophers and the plain men are all displeased together, observing that dreams cannot so be distinguished. When dreaming, we often dream of people; thus, you may dream that some one blacks your eye. That is a sort of sharing. Further, we must at least allow for coincident dreaming: suppose A dreams that he blacks B's eye, and B simultaneously dreams that he has his eye blacked by A; the time, after lunch; the place, the High Street; the dispute, about Free-will. This is another sort of sharing. Lastly, let us imagine that after the coincident dream A wakes up with a light heart, and B with an unclouded eye; the two men happen to meet and quarrel—and this time B has his eye truly blacked. We have now noticed three kinds of sharing; and omniscience alone can tell how on the given principle they are to be distinguished.

It must be granted that the coincident dream was an embarrassing conspiracy of delirium; and this annoying fantasy was only a trial shot—there are trustworthy brickbats to follow. For, the philosophers will say, if two or three flat-earth men get together, must we not be haggard for the earth's spheroidicity? Or if majorities decide—used not the sun to go round the earth? And are not spaced things made up of tiny bits of hard stuff?—for many men think so, and some shamelessly say so. Objectivity—at least, your objectivity—is a function of concerted impudence; for if all men, or all but one, were decently dubious, nothing could be objective.

Let me for a time suffer the other missiles, and look at the last. The question is what do the philosophers intend when they call me impudent? It is not that they mind a layman trying to think—he ought, therefore he can (he can try, they mean); but they wish to point out a certain arbitrariness of process and result. When once a layman tries thinking, you cannot quite tell what will happen—whether, for example, he will be a circle-squarer, or perhaps will tie weights to his cycle-wheels 'to assist propulsion'. Also, misguided laymen may, and sometimes do, agree; so that you must not define objectivity as an agreement of thinking sub-

jects—for laymen can agree wrong, and metaphysicians cannot agree at all.

So far the philosophers make themselves clear; but when they suggest a decent dubiety, what is it that they want now? They do not want me to model my conversation on Lear's old lady of Prague. When a philosopher thumps a table, and demands of me "Is this a table?" he is least of all appeased if I answer "Perhaps". That is not modest scepticism, it is brazen eristic. He means me to say: "It is a visible table, and you thumped it most audibly". I find then that the philosophers' wish is double; they ask me to see in some things the possibility of debate, and in others the necessity of concord, even for lay thinking subjects.

This is good philosophers' sense—and typical philosophers' malice. They have smuggled away from profane notice the essential fact, *viz.*, that everything here turns on the sharp distinction between two aspects of thought—one primary, constructive, and 'automatic'; the other secondary, critical, and deliberative. Thus, in the well-known experiment of negative images,[1] the changing shape of the image clearly depends on an inference; but any experimenters, whether psychologists, children, or mammalians[2] generally, will see similar changing shapes. They must, therefore, use the same inference[3]; but their secondary reflexion on the matter would be widely diverse—a psychologist bethinks him of impetuous polemic; a child remembers Pears' soap; a dog might have convulsions. It is the primary functions—*e.g.* the recognition-thought, and 'cause' and 'thing,' and so on—which put together the objective world; and, as reflexion protests, they put it together inconsistently. The primary thoughts do not, in ordinary consciousness, appear as thoughts at all. Reflexion exposes them, but it cannot reform them. Thus, 'cause' (as a primary) joins in a special way two bits in a time-picture; and, however reflexion may insist that in this special way I must either join all in all or not at all, it cannot check the primary thought, which imperturbably will so join some bits, and will not so join others. If I whistle a note, and during it a clock strikes, I cannot with any effort cognise these events either as cause and effect or as reciprocal action, though reflexion urges that in objectivity all must be connected, each detail with every detail. Reflexion has never done badgering the primary thought; if 'cause' would start, *e.g.*, as *causa sui*, and would go on as universal formula working both ways, and would end as *summum bonum*, there might perhaps be some sense in it! Amid the clamour, primary thought remains sweetly unruffled; and if there is a picture of two bits of hard stuff, 'cause' will transfer movement from one to the other with an engaging simplicity that drives reflexion into dreadful paroxysms.

[1] Dr. Stout's *Manual*, p. 396. [2] A guess.
[3] So (I think) Schopenhauer.

The result of the strife is the prettiest paradox possible. In primary thinking, where inconsistency is the work, a rigid concordance is obtained; either you cannot, or you will not be allowed, to walk through brick walls. In reflexion, where consistency is the aim, controversy is unquenchable; so, a blind deaf-and-dumb man is brought to share a common world with other people, and then he fights with them about Euclid. His squabble incidentally brings to notice another cognitive factor; *viz.*, picturing; the two ways of picturing will for the present purpose be regarded as perfectly distinct from either kind of thought, and will be classed as 'automatic,' in the sense that reflexion finds a difficulty in them, but cannot alter them.

On such a view, elementary cognition will imply only a rather special case of consistency, *viz.*, agreement in inconsistency. As regards the automatic factors, the subjects of cognition cannot be consistent, but they must agree. It will result that, if a man pictures communally, and thinks 'cause' and 'thing' and so on agreeably, then he may be a fire-worshipper or a circle-squarer, or a spiritualist, or a materialist, yet for all that he will be a fellow-cognisant.

This time we have cornered dreaming. Cognition in the virtual agreement of the 'automatic' functions of the subjects of consciousness; dreaming is their virtual disagreement. Thus let every one sleep under observation: now if A dreams that he blacks B's eye, he will be refuted by the watcher; and if B dreams simultaneously and conversely, the watcher will refute B too. Clearly, some one has been dreaming; and to decide which was the dreamer, the appeal is always to more subjects of cognition and their forced agreement. The watcher is the yawning hieroglyph of the waking principle.

"But suppose that when I am asleep in bed, I dream that I am asleep in bed; for when asleep we often say 'I am dreaming, and shall wake by-and-by'. Or, to take a simpler case, suppose that I always sleep with my eyes open, and at daybreak, while I am sleeping with my eyes on the window, I dream that dawn is lighting the window. I do not yet follow how your principle——"

Neither do I, to say frankly; and I am now racked by the riddle whether to be cheated is to be cheated, when the cheat is the same as the truth. Before I can make up my mind, the objector goes on: "You seem to need help. I am not an idealist myself; but I suppose vaguely that an idealist, when he sees a man awake, thinks the following thoughts: 'This is a subject of cognition. I do not mean the man that I see; that is a spaced object, and a subject of cognition is not a spaced object, nor in space-relation to the objects which it, or any other cognitive subject, constructs by spacing (together with timing and primary thinking). Still, I note that certain spaced objects are especially relevant to certain cognitive subjects; and in that case

such an object is especially symbolical to other cognitive subjects who construct it. Thus, when Y kicks Z's shin, each constructs a spaced shin, a shin symbolical to Y, and relevant to Z. So this man—this object which I construct in space, and in an interesting way too, a sharing way, with my primary and communal thought-reference, implying other subjects of cognition, and with our picturing schemes which for their part (but not without the primary thought) produce in each subject a different picture that yet is ultimately a picture of coincidence—yes, this man—this object which I construct, and so do they—this spaced object, I say, I take to be relevant to a subject of cognition; and the behaviour of the object is symbolical—I infer from it that the cognitive subject to which it is relevant, is engaged in constructing a common world with myself. And well he may be.' But on meeting a somnambulous man, the idealist changes his last thoughts into 'is *not* constructing a common world'! Now let us suppose that during sleep there is a contraction of some fibres in the brain-complex; and let us also suppose that by an accident A's skull and parts of his brain are transparent, and the fibres in question are shown in a magnified shape to common sight. When the idealist constructs A's brain-fibres as shortened, he will from this symbolism infer that the cognitive subject, to which those constructed objects are relevant, is not constructing a common world with him. Whereat, if A dreams that (in a mirror) he constructs those fibres so as to symbolise waking, he will be impeached by the idealist; and if A dreams that he constructs them so as to symbolise dreaming, he will convict himself."

Much estranged by this crude and tactless violation of a neat puzzle, I can do no more than gaze coldly on the objector and remind him of the wholesome rule that 'in idealism you do not talk about the brain'. Then I pull myself together for one last wild struggle.

Waking can include dreaming, but dreaming cannot include waking. In this way: imagine that I am drowsy after lunch; I know that the time is about two o'clock, and that I am in my chair; I hear people talking, and a gramophone vociferating—and yet I do most undeniably dream that I am reading a page of Homer, and that I cannot make out why λέων has been emended to Κλέων. The waking state is here the container, and the dreaming is part-content; for if I am wakefully to know that I dream, I must wakefully know that I wake. The other way differs; I am not awake when I only dream that I am only dreaming.

Hereupon all together, man, woman and child, are offended in the very principle of thinking, and exclaim deplorably, "Why, my dear, good, muddled person, you *can't* distinguish——" But let us catch the child apart, since he is more interesting to hear. "Godfather, is it wrong to dream that you steal?" Well, it might mean that you would steal, or had stolen. "You see, I

dreamt that I had had a dream that I took an apple and wasn't sorry; and I dreamt that I hated having had the dream. Ought I to be glad?"

Perhaps it is time to end the business. Adopting provisionally what the enemy would call a Kantian view—that we distinguish waking *vermöge eines Vermögens*—I can drop the subject and listen once more to the topics of serious speculation. However serious it may be, theory has at times the not unattractive look of a παιδία τῶν μαθημάτων. Yet in supposing that even so 'philosophy has something to do with life,' we shall hardly be unjust to the latter; indeed, *es singt von lauter Metaphysik—Ich hör' es sogar im Traum.*

J. A. J. Drewitt.

REPLY TO MR. RUSSELL'S EXPLANATIONS.

The explanations offered by Mr. Russell in the July number of Mind have been read, I am sure, with interest by many readers. I unfortunately did not see the number at the proper time, but still I hope it is not too late to ask Mr. Russell to explain somewhat further; for in the main I am left still unable to understand. If, however, Mr. Russell should feel that within convenient limits there is no more to be done, such a position, so far as I am concerned, would call for no justification.

1. In the first place, my difficulty as to "unities" remains. Is there anything, I ask, in a unity beside its "constituents," *i.e.* the terms and the relation, and, if there is anything more, in what does this "more" consist? Mr. Russell tells us that we have got merely an enumeration or merely an aggregate. Even with merely so much I should still have to ask how even so much is possible. But, since we seem to have something beyond either, the puzzle grows worse. If I remember right, Prof. Stout some years ago stated the problem as attaching essentially to the fact of "relatedness". What is the difference between a relation which relates in fact and one which does not so relate? And if we accept a strict pluralism, where, I urge, have we any room for this difference?

2. In the next place, as to "implication" my troubles continue. If we have nothing but facts, I see no room for implication, and if we have anything more or less than facts, I cannot understand what this is. By all means banish possibility as real, but where among facts does implication fall? Is a disjunction with its "Either-or" an actual fact? Are "conditions" facts? Is "deducibility" a fact? With regard to facts I thought our attitude was one of "It is" or (perhaps also) "It is not". I do not in the least understand the position of "either-or" or of "can be" or "may be".

3. I urged against the possibility of a term being related to itself the fact that relation implies diversity, and I should like to explain my reason for holding to this fact. I do not proceed here by arguing downwards from some assumption or axiom. I proceed on the contrary by way of actual experiment. With any relation remove diversity (this is my experience), and the relation is destroyed. You have (I find) no relation left unless you also leave that diversity which you may have failed to notice. What I of course am forced to assume here is that I have correctly performed my experiment. If Mr. Russell on the other side says that he can

perceive a relation where there is absolutely no diversity about the terms, I do not see how we are to argue about our difference.

4. With regard to diversity, externality and mere fact, the assumptions (I do not call them such) which I make are as follows. I assume first that, where I get the unmeaning or the self-destructive, I have not got even the possible. And I assume that what is is, in the sense that, so far as I have truth and reality, I have not got something which is true and real merely because of something else. This second assumption, if it is to be called one, bears on the question of externality and mere fact in a way which I will explain.

(*a*) But, first, with regard to diversity Mr. Russell maintains, as I understand, that our only reason for denying the relation of diversity between a term and its own self is that this relation is not a fact. Whether Mr. Russell means more than that the relation has not yet been found, I am unable to judge. To myself on the other hand the above relation is not possible. To myself it either is meaningless or self-destructive. In making an ideal experiment I either have no diversity, or else the terms are different; and, when I suppress the difference, the relation is destroyed. I therefore deny this possibility, and I go on further to argue that any premisses from which such a possibility follows are false.

(*b*) With regard to externality and mere fact I should first explain that, in my opinion, these are things which are not and which cannot be observed. To have bare A in bare external relation to B is not possible in any observation or experiment. The supposed fact is really an inference reached by vicious abstraction. We saw above how "unities" and "implications," without which Mr. Russell apparently cannot move a step, involve always a something more which on his view seems inexplicable. And the same thing holds good with regard to any alleged perception of mere conjunction.

To myself the mere fact in which something seems to qualify A from the outside, is never really the whole fact. There is always here a condition left outside of what you take as the fact. Your statement is therefore true not of A itself but of A qualified by x. And hence the opposite of your statement is also true. On the other hand to say something about A which in no sense qualifies A, remains to my mind meaningless. In other words, no "and" which is purely external is thinkable. This is once more the point to which Mr. Russell is invited to address himself. The above is the ground of objection to externality and to mere fact. You want, that is, to say something about something, and not about something else, particularly when the something else is unknown. The demand for "intrinsic" relations I take to be an expression of this want, but I agree that here once more complete satisfaction is impossible. There is of course with me no question of any "axiom".

Naturally I realise that in this way doubt may be thrown upon

every possible conclusion, however certainly it seems to follow in ideal experiment. How are we anywhere to save ourselves from doubt arising from the presence of the possibility of an unknown condition? Have we not with every result a counter-possibility? This question in its turn leads to the inquiry whether the alleged counter-possibility is everywhere really possible. But I must not here digress into a defence of what I have argued elsewhere.

5. I have stated the main principle on which objection is taken to absolute externality and bare conjunction. I would go on to add that I am still in doubt as to the sense in which according to Mr. Russell relations are external. The terms are to contribute nothing, and so much I understand. But I still do not know whether Mr. Russell takes the relations apart from any terms to be thinkable. To be consistent he should, in my opinion, hold this view, but I cannot say that he does so. If all that is meant is that this or that term contributes no more than any other term, clearly, from so much, absolute externality and pluralism do not follow. On the other hand, a relation apart from terms is to me unmeaning or self-destructive, and is an idea produced by an indefensible abstraction.

6. I will end by noticing briefly Mr. Russell's contention that on his view we are less in conflict with science and with common sense. This is an argument which I am very far from undervaluing. In fact the doctrine which I hold I hold largely because it seems to me to remain, more than others, in harmony with life as a whole. I am speaking of course only of views which aim at theoretical consistency, and not of those where inconsistency and self-contradiction are of minor importance. But I could not on this ground compare the conclusions advocated by myself with those taught by Mr. Russell, because on the most important point I do not know what his conclusion is. To myself the things which matter most in life are not to be resolved into terms with relations between them. And I am ignorant as to what on this point Mr. Russell may really hold. The question is in a word as to experiences which, to a greater or less extent, are non-relational. Obviously, when I do not know whether and how far Mr. Russell denies the existence of such facts, or in what sense he admits them, it is not in my power to judge as to how far his views are in harmony with science and common sense, if I use these terms, that is, in anything like a wide meaning. This is a point on which some explanation by Mr. Russell would be welcome, I am sure, to others as well as to myself. We return here to the doubt as to "unity" with which we began. We have again on our hands the whole question as to sensible fact and as to all that is covered by the word feeling. I should perhaps add that, so far as I can judge, Mr. Russell's view as to the inviolability of "facts" would make indefensible the constructions in and by which the entire body of history and of natural science consists.

F. H. BRADLEY.

VI.—CRITICAL NOTICES.

A Commentary on Hegel's Logic. By John McTaggart Ellis McTaggart, Fellow and Lecturer of Trinity College, Cambridge; Fellow of the British Academy. Cambridge: at the University Press, 1910. Pp. xv, 311.

We have here before us in a complete form Mr. McTaggart's critical account of the various transitions by which Hegel passes from the Category of Being to the Category of the Absolute Idea.[1] The method of the Logic, and its "application to experience," he has discussed in previous works, familiar to all students of the subject. But now for the first time there lies before the reader, in lucid and vigorous English, a complete and careful interpretation, step by step, of the stages of the philosophical pilgrim's progress, as Hegel conceived it. I will observe at this point, once for all, that I am disposed to regret the severity with which Mr. McTaggart has restricted himself to the passages which he takes to contain the logical progression. Some lengthy arguments he justifies himself for omitting. But often, I think, a fuller reference to the context of the passages cited would have been both interesting and relevant.

One can hardly fancy that John Stuart Mill, if such a work had been in his reach, would have written as he did: "I found by actual experience of Hegel that conversancy with him tends to depress one's intellect".[2] It is some forty years since that letter was written; it is nearly a hundred since Hegel's *Logic* was published. The appreciation of great thinkers, especially of foreign thinkers, is a gradual and co-operative effort, and means a certain remodelling of the national mind, which takes place slowly.

I believe there is not in any language another exposition of Hegel's *Logic* so thorough and so clear as this. M. Noel's and Prof. Hibben's works, which Mr. McTaggart fully appreciates, are less critical and on a smaller scale. Wallace's studies are familiar to us all, but their merits are of a different kind. Only those who have paid much attention to the *Logic* can estimate the

[1] The second, third, and three concluding chapters are based upon papers which have appeared in Mind. All of them, and especially that corresponding to the final chapter, have been a good deal altered, to a great extent by omission. This persistent effort towards conciseness is highly characteristic of the author.

[2] J. S. Mill's *Letters*, ii., 93.

acumen and the labour that have been devoted to the work before us; and the thanks and congratulations of students are due to the author in the highest measure. One obvious effect of his path-breaking activity will be to facilitate discussion, and he will not take it amiss if varying suggestions arise to group themselves around his central and classical exposition.

1. The topic of the fundamental importance of the *Logic* in Hegel's philosophy (§ 2) will lead us into the heart of the subject. I agree that the *Logic* is central in the system, and that if it were rejected the rest of the system would be destroyed; and further, I accept what I take to be suggested, that the small part which it has occupied in the work of students of Hegel is discreditable to their acumen, or to their courage, or both. But I do not agree that the *Logic* is so far separable from the rest of the system, and self-dependent, that it can truly be represented as a foundation on which the rest of the system depends without contributing to its stability. The sense in which the *Logic* is *a priori*, or depends solely on the notion of 'pure thought,' has been discussed by Mr. McTaggart in the *Studies in Hegelian Dialectic*, and is not before us here, except as implied in the opinion to which I am referring. I should prefer to express the relation by saying that the *Logic* is central thought, and the rest of the system is provincial or departmental. And I cannot hold that the latter is an application of the former. I take it to be common ground[1] that the progression of the *Dialectic* depends upon bringing to bear the mind, which is implicitly the whole, upon a single conception which is before it. This being so, it is surely not a matter of indifference how much of the explicit whole the mind carries with it, as its equipment for the work of interpretation. I do not mean merely that the *a posteriori* may furnish material for the *a priori*. I mean that the so-called *a posteriori* may assist both in moulding and in sustaining the so-called *a priori*; and, although in appearance more open to error and modification, it really bears this character because its content is so abundant as to survive alteration. The Philosophies of Law or of Religion do not seem to me to rest on the *Logic*. The structure of the Notion is in them, and they are able to support themselves, and, going to meet the central thought, to help in sustaining it as well as in moulding its corollaries. The ultimate determinant and foundation of every part is surely the whole; and you cannot rule out any of its provinces from participation in these functions.

This does not in any way detract from a recognition of the value and prime necessity of thorough dealing with the central thought as such. It is the abstract assertion of what a Universe must be, and if it were overthrown (not merely not yet formulated) we could make no predications of the universe.

From this question of the importance of the *Logic* we naturally turn to its uniqueness. Many great philosophers have dealt with

[1] *Studies in Hegelian Dialectic*, § 32.

philosophy as a kind of pilgrim's progress. Is the *Dialectic* disparate with all these systems? We wish well to the *Dialectic*, but we do not wish to be deprived of every other philosophy. The most influential Idealistic metaphysic, apart from Hegel, does not run quite in the grooves of his *Logic*, yet has a general direction emphatically the same. Take any minimum of experience; work out its implications; and it will bring you to a central and concrete view of things. So Plato surely taught, and many since him; so *e.g.* Mr. Bradley teaches to-day. Does Mr. McTaggart say the same, or anything reconcilable with it? Here we may recall the view of the *Studies* that the Dialectic is not so much a chain as a continuous flow, and that its nature might be exhibited in the relation of the larger divisions alone. You might, for example, as I understand, argue upon the connexion of Being, Essence, and the Notion, without being disqualified if there is somewhere a minor link which you do not expect to fill up convincingly. In view of this there is significance in the author's readiness to criticise and to omit; or again, to affirm a transition without finally establishing the local link.[1] His large omissions, it should be noted, are sometimes in agreement with the *Shorter Logic*. It is to be wished that when he finally produces a revised Dialectic he would indicate what he holds to be its relation to the general and classical argument of metaphysic *a contingentia mundi*, as above referred to.

Turning to Hegel's own estimate of the *Dialectic*, we are told in the Introduction (§ 5) that he exaggerated both its objectivity by thinking that no other valid chain of dialectic was possible, and its comprehensiveness, by thinking that its conclusions applied not merely to existents, but to all reality. I shall return to the question of comprehensiveness. As to that of objectivity, I should have thought it right in principle to hold that there cannot be two sound proofs of the same conclusion which are irreducibly different. To deny that this applies to the dialectic tends to make it seem exceptional and arbitrary, a tendency which I deprecate. I shall return also to the question of purely external relations, the impossibility of which Hegel assumes in the *Dialectic*, and ought, the author considers, to have proved beforehand.

2. Before speaking of the general results which the author draws from the *Logic*, it will be well to note shortly the main modifications of the argument which he proposes, and his most striking interpretations.

In view of the impeachment of Hegel's mathematics, he urges (§ 48) that the main object of the *Dialectic* is to get to the Absolute Idea.[2] If Hegel is wrong in thinking that his Categories of Quan-

[1] So far as I see this is the case in the transition from Life to Cognition (§ 277). The author no doubt holds that the local link can ultimately be supplied, but he holds it, I imagine, owing to the relation of the nature of "Cognition" to the general demand of the *Dialectic*.

[2] This is very characteristic of the author, and should be noted with a view to the later argument.

tity are good mathematics, then he has failed in accounting for mathematical ideas. But to do this was not his leading object, though no doubt he thought he was doing it. If the dialectic chain is sound, from link to link, it would still help a skilled mathematician to judge rightly about mathematics, even if Hegel himself has judged wrongly. The answer seems good in general, though it involves a divorce of the lower categories from experience, which is necessary owing to the abstractness of the treatment, but dangerous, I think, as a principle.

This seems the right place to observe upon the author's attitude to Hegel's treatment of the infinite progression. He holds that an infinite progression is not in itself a contradiction, and that Hegel never said that it is, but always shows a special reason when he pronounces one contradictory. As to Hegel's opinion, can the words "Der Progresz ins Unendliche ist überhaupt der Andruck des Widerspruchs, hier desjenigen," etc.,[1] be brought into agreement with Mr. McTaggart's interpretation? And on the merits, if the infinite progression is offered as the solution of a problem, which I understand to be the case *ex hypothesi*, does it not necessarily contradict the claim to completeness inherent in the demand for a solution? In the example which the author gives (§ 70) from the category of the Measureless, it is worth noting that Hegel points out in the *Shorter Logic* (*Encycl.*, 110, note) that this Category is something more than an ordinary "wrong infinite".

The *obiter dictum* that Hegel is never at his best when criticising Kant (§ 47) seems to me to reveal a certain enjoyment which the author finds in shocking the Hegelians. I should certainly demur on behalf of the *Rechtsphilosophie*.

The author rejects *in toto* the triad of Quantitative Ratio, and proposes a substitute for it (§§ 71-72). It is impossible to do justice to his argument here; but I may say that he hardly seems to me to make enough of the raising of a datum to a system which implies a quality, in the absorption of quantum in ratio. He complains *e.g.* that Hegel treats ratio as a quantum, which it is not (§ 66). But I suspect that Hegel meant to indicate that quanta in ratio cease to be quanta and so come to be on a level with their ratio. When a newspaper prints 5 per cent. as £5 per cent. it commits the error of taking a quantum as entering into ratio, and illustrates negatively the transformation which ratio effects. The author's proposed triad, it seems to me, does not so much show quantity becoming qualitative, as postulate that at a certain point it shall be accompanied by a quality. This matter of continuity will meet us again.

"The whole of Hegel's treatment of Measure is invalid" (§ 75). This treatment most people would set down as one of Hegel's successes. The main objection is that at the end of Quantity he has only reached the idea that the members of every Quantum must

[1] *Greater Logic*, i., 254 (ed. 1841).

have a quality in common; while the idea which he uses at the beginning of Measure is that a quantum is *the amount of a quality* which according to its amount determines another quality. But after passing through "intensive quantum" must we not be ready to use the latter idea, *viz.*, a single quantity of a quality, whose units are qualitative degrees, rather than the idea of a quality shared equally and alike by all the units of a number? I should have thought that the more and less of quality should have come in at a much earlier stage, before explicit quantity or number. But this last sentence is a criticism on Hegel and not on Mr. McTaggart.

In the development of Measure there is a remarkable instance of the author's belief that categories may be omitted as erroneous without interrupting the flow of the dialectic. He condemns and would dispense with the entire "loop" from Rule to Elective Affinity, which is absent in the *Shorter Logic* (§§ 81 and 94). Of course if the links omitted are erroneous, they are *a fortiori* unnecessary. But the interesting point is that the nature of the series should be such as to render it arguable whether ten links inserted by its originator are erroneous or not. It is plain from this that the continuity is more important than the gradations. I am inclined to think that the category most incriminated, that of "specifying measure" in the narrower sense, might be defended. You want to exhibit the object itself as determining the quantity of a quality, and you assume an identical external source merely to help you in stating the point that this determination is differential in different objects (*cf.* § 81).

Noting the admirable account of the transition to Essence (§ 93), we pass on to observe the important caution as to the implications of the terms Essence and Appearance, which are not to be taken as what is real in contrast with what is merely apparent. Both belong to the nature of the thing as viewed at a certain stage, and neither is more or less real than the other. The author proposes to apply to them the terms Substratum and Surface respectively (§ 99). "Appearance" as opposed to Reality, in Mr. Bradley's sense, would apply, I suppose, to all the categories short of the Absolute Idea.

Now let us turn to the concluding Categories of Essence, which Hegel speaks of as exhibiting more particularly the 'genesis of the notion'.[1] Here questions arise affecting the author's attitude to the continuity of the *Dialectic.*

From Substance and Accident Hegel proceeds through Cause and Effect to Reciprocity and the notion; gradually removing the one-sidedness of the way in which things affect each other, and exhibiting its passage into the nature of a system of totalities, all in each and each in all, which is characteristic of the notion. A link in this series of transitions is the identity of Cause and Effect. This

[1] *Greater Logic*, iii., pp. 6, 310 (ed. 1841).

identity the author denies, noting the interest of the point, and supporting his view at some length (§ 178 ff.).

I do not think he gives weight enough to the consideration, which Hegel, from his reference to "Zufälliges Beiwesen" in the cause, evidently had in mind, that if we are to exclude irrelevant elements from the cause we are forced to cut down concrete factors of it into abstract connexions. Of course, in ordinary speech about causation, we constantly neglect to do this, and so leave cause and effect standing as separate and successive events. And this usage is good enough for many purposes if we know what we mean; but such usage does not give an account of unconditional causation. And the same consideration would destroy the formidable objection that if, in the causal chain, two proximate links are identical, then all must be identical from end to end—for what are the same with the same are the same with each other. For in relevant Cause and Effect we are dealing not with a chain but with a complex; and you cannot find a chain to which to apply the argument except by tracing forward a factor arbitrarily selected from the complex; and then of course the identity is lost; but the causal relation is lost also.

I have referred to this discussion partly to introduce a consideration with which I am very strongly impressed on re-reading the *Logic* with Mr. McTaggart's commentary. Hegel, with all his profound insight, was in many ways extraordinarily literal and naïve, and this shows especially in his examples. To be fair to his thought, one would have to interpret him almost with the freedom which is necessary in dealing with a writer like Plato, whose genius wholly outruns the knowledge of his day. It is quite true that his examples here (and so also later on in maintaining the incompatibility of different predicates, § 215) do not carry out his intention.[1] They do indeed establish a continuity, which I suppose Mr. McTaggart would not deny. But to bring out the real point, which Hegel evidently divined, examples from scientific analysis are necessary, while Hegel uses the first crude facts he can think of. I believe therefore that his meaning, in matters of this kind, can be better represented by examples after the manner of Lotze or even Mill, than he has represented it himself. The same remark applies to the question of the inconvertibility of the proposition A (§ 207), and that of falsity of the positive judgment (§ 193), and to the whole problem of the place of mediation in Judgment and Syllogism (§§ 226-227). It is quite true that Hegel shows no way out of the detached and external manner of handling predicates

[1] One, the relation of will to action, is evidently *too good*, *i.e.* it is drawn from a sphere in which the identity of cause and effect is restored at a higher level, *cause as well as effect* being spiritual. When cause is physical and (so-called) effect is spiritual, the relation, as Hegel is surely right in saying, is only to be admitted "in uneigentlichem Sinne," *i.e.* as stimulus and response or something of the kind.

which is habitual in Formal Logic. But his profound remark on the nature of the copula (*Greater Logic*, iii., 72) shows that he was quite aware of the inherent reciprocity of the Judgment.

We saw that from Substance onwards we were dealing with the Genesis of the notion.

What, we may now ask, did Hegel mean, by giving the name of Subjectivity to the first division of the notion, consisting *prima facie* in a treatise on Formal Logic, between Reciprocity at the end of Essence, and Mechanism at the beginning of Objectivity? As Mr. McTaggart points out, anything like knowledge or consciousness comes very much later in the series, and moreover the *Dialectic* deals with predicates of reality, and not with mental processes.

His answer to this question, already familiar to readers of MIND, is characteristic both in its definiteness and in a certain exclusiveness. Should I be far wrong in saying that Mr. McTaggart is one of those robust thinkers who hardly consider a statement worth making unless there is a strong *prima facie* case against it? In this I do not refer to his view that Subjectivity here means contingency, but to his assertion that in Hegel, and consequently here, it means with one formal exception nothing else (§ 183).

The first part of the logic of the motion is called Subjectivity, he says, not because it deals with the working of our minds—a meaning excluded by the reasons given above—but because it describes a characterisation of reality which is contingent and capricious, abstracting, as formal logic does, from the relative importance of predicates, and simply emphasising the facts of formal classification by similarity. Except in some titles of the *Greater Logic*, he says (*l.c.*, footnote), this is the only Hegelian usage of subjective and subjectivity.

The author's absolute veto on treating this section as concerned with mental processes is, I take it, sound and necessary. In a very different way, Wallace and Noel gave the same warning. But in denying that Subjectivity as a rule throughout Hegel means and refers to immensely more than superficiality or contingency, he has really very much against him.[1] I do not doubt that he has considered it all, and struck a balance that contents him. I only point out my difficulty in a word or two. Hegel's transition from Reciprocity to the notion, which the author rejects (§ 187), implies that in Reciprocity the notion has been brought to its appropriate form, not, of course, as a mental process, but as a logical structure. This form, Hegel appears to me to be constantly saying, *is* Subjectivity,[2] the self-complete organism, so to speak, of the notion.

[1] I may refer to *Studies*, § 40, where Subjectivity is the mainspring of the notion.

[2] A convenient reference is *Encycl.*, 192. This is only a lecture-note, but it merely puts in a nutshell what Hegel—I should have thought—is perpetually asserting or implying (*cf. Studies, l.c.*).

And the emphasis of his reference to the transition from Substance to Subject, which coincides in the *Dialectic* with what he calls the "Genesis of the notion," I have always supposed to mean the same thing. The transition from Subjectivity to Objectivity he actually compares with the argument from the notion of God to his existence.[1]

I see no difficulty in combining this suggestion with Mr. McTaggart's view, by observing that the notion in Subjectivity, though already in its proper triple form, takes the Universal as a mere common quality, and so represents a highly superficial characterisation of reality. In this way we should retain the notional form as the mainspring of the dialectic movement (*cf.* § 234); and while Mr. McTaggart's distinction of classification from determination would be substantially upheld, we should not regard them as absolutely incommensurable but as continuous forms of identity or of the universal, which tend to run into one another.[2]

Very many more interesting questions of detail demand treatment, *e.g.*, the criticism of Hegel's criticisms of the *Laws of Thought*. In these, again, I should have tried to exhibit Mr. McTaggart's Puritan correctness of judgment, as, to my thinking, not wholly doing justice to the inherent logical demand—what you ought to mean by a statement if it is to be worth making. But it is time to pass to more general problems.

3. At starting we referred to the question whether the *Dialectic* is as comprehensive as Hegel thought. Does it apply to what is real but not existent—such as propositions and their terms, and possibilities, or to existents only? And, a question raised at the same point (as I understand § 6): Are there purely external relations? Mr. McTaggart holds that in both cases Hegel ought to have furnished a preliminary disproof, which he has not attempted.

It seems to me, as regards the first question, that the *Dialectic* naturally and *prima facie* deals with all reality; and ought, within itself, to explain the relation between existence and any reality which partly (or wholly if that is possible) fails to appear in existence whether in person or by proxy. Any one who holds that there is reality which forms a disconnected world, or disconnected being, such that a treatment of existence and a treatment of that world are not logically linked and need not go together, has, I think, the *onus probandi* upon him. If reality is a universe, the natural assumption is that all of it must fall within any treatment which consistently develops it from its minimum. If this is im-

[1] *Greater Logic*, iii., 168.

[2] This becomes important in estimating the author's argument (§ 270) that in "Life" there cannot arise inadequacy of the individual through failure to manifest the idea of the kind, because the universal in "Life" is a system, while the universal of a kind is a class concept. "If all lions but one were annihilated, the survivor would be none the less a lion." Is this tenable? Would it be true of a man?

possible, and there is a second disconnected world, the impossibility should be exhibited by the believers in that world.

So, I should say, with external relations. The *Dialectic* takes us over the whole genesis and ground of relativity, and attempts to examine all typical wholes within which relations can have being. Of course its completeness is open to be upset by argument; but till that is done, and it is shown how and in what sort of whole an external relation between its terms could find place, I think the general examination holds the field. I incline to believe, therefore, that the author, with an impartiality laudable in itself, has conceded too much to *prima facie* claims.

Recurring now to the question of Comprehensiveness, I should like to expand it in a sense which will lead up to the fundamental problem of the Absolute Idea. Whether or no true of existents only, are all the conclusions of the Dialectic true of all existents, or do they transcend the nature of some? Mr. McTaggart readily recognises that some of the Categories—lower or higher as may be—come nearer than others to the apparent nature of some existents. *Prima facie*, that is to say, there appears to be distinctions of level between things; there appears to be, for instance, an inorganic, and again an organic world, and bodies which are not all spirit, unless spirit is more inclusive than we commonly suppose. To these, if the comprehensiveness of the Dialectic is to be compatible with the survival of a concrete world, the higher Categories would apply, so to speak, negatively, as revealing the inferiority of their rank and position in the universe. Yet they would have substantial being as appearances of the real, and their contribution to the Absolute Idea would be distinctive and actual, and not a mere illusion to be lost in the ascription of a nature beyond their appearance.

If I understand him rightly the author decisively rejects this conception. For him all the Dialectic is true of all existents, and, consequently, everything is a mere illusion in so far as it does not appear with the character which the Absolute Idea represents. This seems to me different in principle from saying that everything is transformed in the Absolute. For, on this latter view, things are transformed through and by reason of a special nature which makes a special contribution to the whole. Externality, in short, though not real alone and *per se*, is an appearance which is necessary, and has its special part to play. But, on the author's view, if I grasp it, we have, in a word, extreme panpsychism. The Absolute Idea, *per se*, holds of everything as such, and not merely of the whole.

Or could we come to terms at this point? Is it open to discussion how much, so to speak, of the apparent universe is required to constitute a single existent such as finds its truth in the Absolute Idea? Then there might be room for distinctive being on the part of apparent existents which would only enter into and not *per se*

constitute such a true and ultimate existence—which could not, I mean, claim the nature of the Absolute Idea for themselves, but only in virtue of a whole to which they belonged.

4. Disregarding this latter suggestion, we are brought to the question which I think is ultimate and fundamental in the author's philosophy and in his view of Hegel. It is stated with perfect lucidity and fairness in §§ 290-291. I put it roughly for reasons of space. Is the Absolute Idea just the process of the Dialectic, or has it a determinate content of its own, outside and free from the process, which is then merely one of our inference? Hegel seems, as the author shows, to say quite clearly both these things. The author, as clearly, chooses the second and rejects the first. I feel certain that we must have both, and that the test of a philosophy lies in its power of combining them.

The author's argument is strong. The Dialectic process, he urges, need not and cannot enter into the Absolute Idea. The process involves contradictions which depend on defectiveness of content. At every stage some defect and with it some contradiction is eliminated,[1] and in the end a content is attained in which neither defect nor contradiction survives. This is the content of the Absolute Idea, and the author cites from Hegel (*l.c.*) descriptions of it as it is in its own nature.

But granting this in principle, granting that the appearances of the pilgrim's progress are not taken up as they stand into the Absolute Idea, yet must not the Idea live in its appearances? How else can it appear, and does not Hegel's argument hold good, that if you try to begin with the truth, you will find it impossible to dispense with the defective approaches to it?[2] I take it he means that without these the content of the truth itself would be pared away to vanishing point.

We may take as a test case the relation of the two stages of "Cognition" to the Absolute Idea. The succession is, in a word, that first the Universal is seen to be the determinant; then the Individual; then, because both alike, therefore neither. Is this to mean that we end with a static harmony? Surely not. It must mean that something is really determinant which lives and is one in a real difference. "Knowledge" and "Volition" must not be names for acquiescences, but for energies in a tension; and the Idea must transcend them by being a satisfaction of effort and not its absence.

This real survival of the inferior existents and of their processes as contributory within the Absolute Idea, is, I think, logically sound, in spite of the author's argument, for a conclusion in Logic can

[1] Space has failed me to deal with the author's elimination of the Category of "*Widerspruch*" (§ 118) and of the immanent contradiction in "Life" (§ 268). Even if untenable, which I doubt, these throw light on Hegel's conviction.

[2] *Cf. Encycl.*, 82.

never contain its full meaning if wholly severed from the proof, and, however corrected, the inferior Categories must remain at once inferior *per se*, and contributory to the Idea. And this would make a difference to the whole content of the author's reading of Hegel, and, perhaps, to his own philosophy, especially to the problem of Time and Eternity. If the inferior existents and the process which they make inevitable are accepted as indispensable appearances of the Absolute Idea, and actually necessary to its content, all such questions assume a different aspect.

For the rest, his interpretation (*l.c.*) of the well-known and extraordinarily difficult passage in which Hegel speaks of the notion in its perfection as "*qua* Person, impenetrable atomic subjectivity," is familiar to students from his work on Hegelian *Cosmology*. Its point lies in construing this "atomic subjectivity," not of any single being who forms the Universe, but of Individuals who constitute differentiations of such a being (§ 295). It is one of Mr. McTaggart's audacious assertions that both Hegel and Spinoza disbelieved in the personality and consciousness of God (§ 168). I call it audacious, not because it is untenable in the letter, but because it is thrown out without a guard against the suggestion of something beyond what we call personality and consciousness. But I do not doubt that as a minimum the result he draws from the *Dialectic* both represents Hegel, and is sound in itself. "All that exists forms a Universe composed of Individuals" (I do not see that the individuals need be permanent or similar); "the Universe and each Individual is an organic system, and the relation which exists between the Universe-system and each of the Individual systems is one of perfect harmony" (§ 292). The nature both of this harmony and of the ultimate unity which includes the individual systems is left, as I understand, an open question by the *Dialectic*.

Mr. McTaggart just refers in conclusion to the results reached in his *Studies in Hegelian Cosmology*, pronouncing it impossible to decide whether Hegel would have assented to his view that the Absolute is love. One would be inclined to suggest that a good deal more than this must go to it, and that among single conceptions it is Religion that must come nearest to indicating a state of consciousness that can exemplify the Absolute Idea. When Hegel speaks of Philosophy in that reference, I take it that the idea of Religion is implied. I am not suggesting that either of these or both together can actually fill the place. But they present themselves as more capable than other conceptions of symbolising the fulness of experience which it demands.

I wish at the end of this notice to reiterate my judgment that the present work affords a basis, such as has not existed before, for the effective estimation of Hegel's philosophy. My own comments, for instance, such as they are, have only been made possible by the lucidity of Mr. McTaggart's work. It needed a rare

courage and confidence to devote, as he reminds us that he has devoted, twenty-one years of his life to the exposition of Hegel's philosophy. And the result is that he has done what perhaps no one else could have done, and what certainly no one else has approached to doing. It is interesting to learn that for all his judicial attitude he is convinced "that Hegel has penetrated further into reality than any philosopher before or after him" (§ 296). It is to be hoped that he will himself undertake the independent investigation which he foreshadows in his closing sentences.

BERNARD BOSANQUET.

Mysticism in Modern Mathematics. By HASTINGS BERKELEY. Oxford University Press: Henry Frowde, 1910. Pp. xii, 264. 8s. net.

MR. BERKELEY thinks that, as when the Pythagoreans were the foremost mathematicians, so even now the philosophy of mathematics has not wholly freed itself from mystical implications. This is, of course, a psychological question, and Mr. Berkeley believes (pp. iii-iv) that it is in general the case "that all ratiocinative processes, no matter what the subject, in which the current and continual substitution of symbols (of any kind) for concepts is a prime condition of the effective conduct of the process, are provocative of that attitude of mind" (*cf.* p. 5). Pragmatism in philosophy may be characterised (p. iv) as "a methodical and determined attempt to rid philosophy of mysticism," and Mr. Berkeley attempts the work of purgation of certain mathematical doctrines—that of the imaginaries of algebra and geometry, and that of metageometry.

The book is divided into three parts: Part I. (pp. 3-49) deals with thought and its symbolic expression, Part II. (pp. 53-147) with imaginary quantities in algebra and imaginary loci in geometry, and Part III. (pp. 151-258) with metageometry. The first part contains an endeavour to arrive at a clear understanding of the mental attitude and processes involved in the use of language and of symbolism in general, both as a means of intercommunication and as an instrument of reasoning (pp. 4, 250). This part is an extremely interesting psychological discussion, and contains, what will interest mathematicians and other students of what is called "Universal Algebra" (*cf.* pp. 74-76), a criticism (pp. 36-48) of Prof. Stout's well-known theory of substitute and other signs. Prof. Stout's distinction of words and substitute signs is, according to Mr. Berkeley, too trenchant: there is community of function of such signs as well.

Fortunately the advance of symbolic logic has removed from the region of controversy such questions as that whether ordinal conceptions are necessary for the definition of cardinal numbers. Hence Mr. Berkeley's remarks on the independence of the concepts

of (cardinal) number and order (pp. 53, 55) are now superfluous. Of course, it must be remembered that psychological details about the origin of the number-concept and its close association with the concept of order are irrelevant to the logical questions of arithmetic, though they are often interesting as accounting for certain views held by Helmholtz, Kronecker, Dedekind, and Cayley.[1]

Mr. Berkeley's explanation (pp. 53-56) of what he calls 'number,' and what mathematicians now call 'cardinal number,' is that it is "a certain exact likeness, or identity, . . . which is the concept or abstraction" obtained by comparing various aggregates—that is to say, extensions of concepts—which have a (1, 1) correspondence with—or, as Russell, following Dedekind,[2] says, are 'similar' to—one another. Common sense has no doubt that there is such an entity as abstraction professes to discover, but the chief advantage of Russell's definition of cardinal number is actually to point out such an entity. Certainly, we may, it seems, choose different entities, each of which would answer the purpose of "the cardinal number belonging to all the classes similar to a given class *u*"; thus, for all that appears at this stage, we might choose a definite class—say the class of certain ordinal numbers—out of each class of similar classes and consider it as *the* cardinal number of those similar classes. This definition would have the disadvantage of unnecessarily making the definition of cardinal numbers logically subsequent to that of ordinal numbers, and is also subject to certain objections arising from Russell's "Theory of Types"; [3] but it satisfies—which Mr. Berkeley's and most people's definitions do not—the requirements of logical definition, and is analogous to Russell's [4] definition of the so-called real numbers.

In the note on page 54, Mr. Berkeley asserts that "no significant definition of the name or symbol of a number can be given without the aid of other number symbols or names whose meanings are already known". This implies that some number symbols are indefinable, an opinion which is now known to be incorrect, since the cardinal number of a class *u*, can be defined in terms of *u*, similarity to *u*, and the notion *such that*.

In the same note, on pages 54-55, Mr. Berkeley objects to the opinion [5] that each cardinal number can be defined independently of all the others—"a surprising feat if the conceiving of numbers involves the conceiving of identity [Russell's 'similarity'], and hence also of non-identity, between aggregates". The ancient argument that the conception of a thing involves the conception of

[1] *Collected Mathematical Papers*, vol. v., pp. 292-294; vol. xi., pp. 442-443. *Cf.* also E. Schröder, *Algebra und Logik der Relative*, Bd. iii., Leipzig, 1895.

[2] Cantor says 'equivalent with'.

[3] *Amer. Journ. of Math.*, vol. xxx., 1908, pp. 222-262, and *Rev. de Métaphys. et de Morale*, t. xviii., Mai, 1910, pp. 263-301.

[4] *The Principles of Mathematics*, vol. i., Cambridge, 1903, pp 270-275.

[5] *Cf.* L. Couturat, *Les Principes de Mathématiques*, Paris, 1905, p. 52.

its negative does not seem to me valid: we can certainly conceive of an entity and certainly not of a non-entity. Mr. Berkeley objects (p. 55 n.) to Russell's definition on the ground that it "would certainly not in general be admitted as defining *the* number of a given class or aggregate". That other definitions of 'the cardinal number of u,' which have the same merits as that of Russell, may perhaps be given, we have already remarked; but we hardly think that Mr. Berkeley had such definitions in his mind. His objections would seem rather to have their origin in the instinctive and unanalysed revolt of common sense against the statement that a number is a class. And yet, the fact of this revolt is quite inadequate to meet the uncontroverted arguments of Frege and Russell.

Mr. Berkeley then decides (pp. 62-63) that Stallo's condemnation of the custom of considering algebraic symbols indifferently as symbols of number or of quantity has no real basis, the numerical unit being indistinguishable save in name from the unit of purely abstract quantity.

Mr. Berkeley earns our gratitude by emphasising (p. 56) that "neither names nor mathematical symbols . . . are necessary in order to form concepts of number, nor are they indispensable for the effective and ready use of these concepts in the process of reasoning, so long as the process does not overpass a certain degree of complexity". And one of the objects of the first part was (p. 250) to insist upon the necessity, in epistemological considerations, of keeping a firm hold of the distinction between the process of thought and that of its symbolisation, a distinction which the perpetual use of the symbol as a substitute sign is for ever tending to thrust into the background. It was the neglect of this distinction between sign and signification that seems to have been the origin of the nominalistic theories of number of Helmholtz, Kronecker, and of those many mathematicians who are criticised most explicitly and lengthily in the works of Frege. In this protest, psychology and logic join; "the fact," says Mr. Berkeley (p. 56), "that we are taught to count by the aid of names from a very early age, and thus learn to think about numbers by means of symbolic instead of representative imagery; and the equally if not more important fact that we retain in memory little or no trace of the mental processes through which we originally elaborated the simple, fundamental, primary conceptions which are the common property of all men—these facts tend in many minds, and not least in the most educated, towards a practical obliteration of the distinction between numbers and the symbols, verbal or mathematical, with which we have been taught to associate them". Again, on page 99, Mr. Berkeley points out "the absolute necessity, in expounding the principles of any system of symbolising thought, of never allowing the distinction between the process of thought and the process of symbolisation to lapse from the mind, however convenient for

brevity's sake it may be to refer to the symbols as if they were one and the same with that which they are intended to symbolise. Once the principles are understood and agreed to, the necessity is no longer imperative but incidental." In fact, many eminent mathematicians have committed an error analogous to that of confusing between the town Paris and the sign 'Paris,'[1] and imagining that the town referred to consists of five letters.[2]

Mr. Berkeley characterises (p. 64) as 'mystical' the process, used by Cayley when dealing, in 1883, with the doctrine of imaginaries in mathematics, of explanation of the derivation, from a primary conception (such as that of quantity or of space), of another conception, followed by such questions as: What is, or what is the nature of, this derived conception? (see also pp. 130-131). Such expressions as 'imaginary magnitude,' 'imaginary locus,' 'homaloid and curved space,' do not (p. 65), in Mr. Berkeley's mind, evoke modifications of his conceptions of magnitude, locality, etc., while they seem to him to be, for modern mathematicians, expressive of such modifications; and the criticisms in the chapter on "The Doctrine of Mathematical Imaginaries" compelled him "to assume, as at least probable, that mathematicians do not, in fact, attain to these alleged modifications or extensions of the ordinary ideas of magnitude, locality and space; and that, where they believe that they do so, that belief results from an illusion of judgment as to the part which symbolism of any kind plays in the development of a process of reasoning; in other words, is the result of a tendency to mysticism of which they are unconscious, or not sufficiently conscious" (p. 65).

Thus, dealing with the construction, quoted by Cayley, of the radical axis of two circles, which passes through the points of intersection, or, if the circles do not intersect, is said to pass through "the imaginary points of intersection," Mr. Berkeley says (p. 71): "The geometer perceives, in the construction common to the two opposed cases, a certain analogy; and this analogy is paradoxically, or by a violent metaphor, expressed in the statement that the line always passes through the intersections, real or imaginary, of the two circles. But then, so far as the expression 'imaginary points' alone is concerned, this is the philosophy of the matter. We require nothing more, save to recollect that we have expressed a real analogy by means of a verbal paradox, and that we must be careful, especially in the development of such an unusual mode of expression, not to lapse into the mystical by subsequently trying to read these expressions as if they were literal" (*cf.* pp. 129-130).

Here we may remark that Mr. Berkeley assumes (p. 69) that a philosophical inquiry about a notion is an inquiry into its origin

[1] We follow Frege in distinguishing the sign by single inverted commas when we wish to speak of the sign itself and not its denotation.

[2] *Cf.* my articles in the *Mathematical Gazette*, vol. iv., 1908.

and derivation. But many important logical questions about a notion (*e.g.*, the definition of a complex number) are not answered by an historical or psychological investigation. Still, this fact is so obvious that we suppose that Mr. Berkeley uses 'origin and derivation' in a logical, and not in an historical sense. But this should be made plain: misunderstandings readily arise here, and the confusion of what is true with what people have thought or think is true is very apt to be made by pragmatists.

Mr. Berkeley criticises very minutely the accepted explanation of the difficulty occasioned by the appearance in algebra of the 'imaginary'. This explanation is due to the efforts of some of the more philosophical of the English mathematicians in the first half of the nineteenth century—D. F. Gregory, Boole, and De Morgan.[1] The views expressed by Dr. Whitehead,[2] which are those to which Mr. Berkeley chiefly refers, are, in essentials, the same as those of De Morgan.[3]

The symbols of arithmetic, and algebra regarded as *arithmetica universalis*, denote numbers, and the operations—symbolised by $+$, $-$, and so on—with them are subject to rules derived from the (self-evident, it may be) notions of number. But, according to De Morgan, in "symbolic algebra" we divest all the symbols, except $=$, of any particular meaning: 'A = B' means 'A and B have the same resulting meaning, by whatever different steps attained'. These symbols are subject only to certain rules, such as $+ A - A = 0$, $+ (+ A - B) = + (+ A) + (- B)$, $+ A - B = - B + A$, $\times A \div B = \div B \times A$. "As soon," said De Morgan,[4] "as the idea of acquiring symbols and laws of combination, without given meaning, has become familiar, the student has the notion of what I will call a *symbolic calculus*, which, with certain symbols and certain laws of combination, is *symbolic algebra*: an art, not a science; and an apparently useless art, except as it may afterwards furnish the grammar of a science. The proficient in a symbolic calculus would naturally demand a supply of meaning," which would turn his *symbolic* calculus into a *significant* one; and we must remember that many different sets of meanings may, when attached to the symbols, make the rules necessary consequences.

De Morgan, in the book mentioned, constructed algebra upon a basis which enables us to give a meaning to every symbol and construction of symbols before it is used; the calculus of ordinary "double" (with two units, real and imaginary) algebra became significant at every step when interpreted in a well-known manner in space of two dimensions.

[1] *Cf.* my article in the *Quarterly Journal of Mathematics*, 1910, pp. 332-334, 345.

[2] *A Treatise on Universal Algebra with Applications*, Cambridge, 1898.

[3] *Trigonometry and Double Algebra*, London, 1849, pp. 89-105.

[4] *Op. cit.*, pp. 92-93.

Dr. Whitehead defined a calculus as the art of the manipulation of substitute signs according to fixed rules, and the deduction therefrom of true propositions about the things denoted by the signs. Thus, a calculus is supposed to be significant; "but when a set of marks and the rules for their arrangements and re-arrangements are analogous to those of a significant calculus, so that the study of the allowable [*i.e.*, permitted by the rules laid down, just as the pieces at chess have allowable moves] forms of their arrangement throws light on that of the calculus, . . . then the art of arranging such marks may be called—by an extension of the term—an uninterpreted calculus. . . . The marks used in it will be called signs or symbols as are those of a true calculus, thus truly suggesting that there is some unknown interpretation which could be given to the calculus."[1]

Mr. Berkeley (p. 76) reminds us of what mathematicians are too prone to forget, namely, that "if the marks are not symbolic they are not marks but things, and where the rule of manipulation is not symbolic it is at once arbitrary and meaningless—is not, in any sense relevant to symbols, a rule of manipulation". And *à propos* of Dr. Whitehead's remark that the study of an uninterpreted calculus possesses serious scientific value when there is a similarity of type of the signs and of the rules of manipulation to those of some significant calculus, Mr. Berkeley remarks (p. 77): "I do not doubt it; only there is one rather important point which is ignored in this explanation. How or why does one set of signs and of the rule for their manipulation happen to be similar to another set, unless there is analogy of conception and of thought-process seeking and finding expression in this similarity of type of sign and of rule; in other words, unless the later calculus is significant?"

We cannot see the relevance of this question. We may study, as people did in the eighteenth century, the calculus of imaginaries as an uninterpreted and perhaps uninterpretable calculus analogous to the significant calculus of real quantities. It is true that the calculus of imaginaries is significant, but we fail to see, at any rate as yet, that analogy with a significant calculus implies significance. There seems to be no obvious connexion between the two; and certainly, if A is true, we cannot say that A implies B unless we know that B is true. But if we already know that a calculus is significant, Mr. Berkeley's argument is superfluous.

Dr. Whitehead implicitly adopted Boole's[2] doctrine that, in any system of valid reasoning by the aid of symbols, the formal processes of demonstration are to be conducted throughout in obedience to the laws determined from the interpretation of the data, without regard to the question of the interpretability of the particular results obtained. Mr. Berkeley objects to Boole's arguments that the knowledge of this law of the mind is derived, like that of the other laws of the mind, from the manifestation of the general principle in

[1] Whitehead, *op. cit.*, p. 5.
[2] *Lands of Thought*, London, 1854, pp. 68, 69.

the particular instance, on the grounds that it is merely an assertion. "If," he says (pp. 78-79), "it were a matter of experience that intermediate results in a process of reasoning were always, or even usually, uninterpretable, then we should feel no difficulty—we should recognise the general principle in the particular instance. For my part I recognise in this case just the contrary : that the particular instance manifests an unexplained departure from general principle."

We cannot help feeling that Mr. Berkeley is right, and that it is only the fact that "double" algebra is wholly interpretable that made steps which are uninterpretable in another sphere lead to correct results which are interpretable in that sphere. It is not difficult to see how strongly a mathematician would feel, like Woodhouse, that, since calculation with imaginaries led to undoubtedly correct results, it *must* have a logic ; how a mathematician like Boole would be led to make this into a general principle of reasoning ; and how a clear but non-mathematical mind like that of Jevons would fail to grasp this characteristic of Boole's logical work. Hence Mr. Berkeley's objection (pp. 79-83, 109) that to conceive, with Dr. Whitehead, algebra as an independent science dealing with the relations of certain marks conditioned by the observance of certain conventional laws, is as great a difficulty as the difficulty of imaginaries it is supposed to remove, because no intelligible account can then be given of the *raison d'être* of the relations, conditions, and laws or conventions affecting the marks.

But while Mr. Berkeley seems to us to be correct in pointing out that the Universal Algebra of Dr. Whitehead is not a logically arranged body of doctrine, he does not appear to have grasped what would seem to be the essential character of this science. In Universal Algebra we are given, not a completed science, but a method for future discovery. The signs in it are signs for entities and for operations on those entities, but the entities and operations themselves are, to a great extent, left undetermined ; and thus are said to be 'variable'. Thus in 'A + B,' 'A' and 'B' may possibly denote classes, and 'A + B,' as in symbolic logic, the least class which contains all the members of A and B ; or, again, 'A,' 'B,' and '+' may denote numbers and the operation of addition, as in arithmetic. In both cases we have A + B = B + A.

We can, now, imagine games, so to speak, with marks such as A, B, +, and so on. Certain of these games may be given a valuable interpretation ; and some of us think it worth while to search in this way for such interpretations, because such searches—though perhaps not made so explicit—have often been successful in the past. We may notice, by the way, that this view is sharply to be distinguished from the formalist view of algebra, in which the subject-matter is considered to be a set of marks merely, which are to be dealt with according to fixed rules.

Lastly, although it seems necessary that the validity of the laws

of transformation of a set of marks depends, not on convention, but on interpretation, it is not necessary that algebra should depend on geometry. For, as Peano has shown, complex numbers may be interpreted logically, as what are known as 'substitutions'.

There is conformity with the results of the modern logical criticism of Frege and Russell of the so-called 'generalisation of number'. Mr. Berkeley's views are summarised on page 252: "That the supposition or belief entertained by some mathematicians . . . that the development of algebraic symbolism leads to a new and more fundamental, or more extended, notion of quantity than that with which Algebra starts, is an illusion which appears as the culminating point of, and for which the way is prepared by, the tendency to mystical explanation which marks the commonly received exposition of the conceptions and symbolism of Algebra in its most elementary phase" (*cf.* pp. 85-86). With this end in view, Mr. Berkeley criticises Prof. Chrystal's *Introduction to Algebra*, and finds in it "a belief or supposition that the conceptual development follows upon the development of a symbolic system, rather than that the development of a symbolic system follows upon and is the expression of a development of conception. We would think it a very odd statement were any one to assert that the laws of addition and subtraction in arithmetical symbolism lead us to the notion of number" (pp. 86-87).

Those mathematicians who are not unacquainted with the history of mathematics in England during the last century, and who remember with sympathy the polemic of Maseres and Frend against the illogical methods for the introduction of negative quantity in use in text-books, will feel warm agreement with Mr. Berkeley when he reads on page 97: "Any one who can recall his school days, in particular his initiation into the mysteries of algebra, will, I doubt not, also recall the bewilderment produced in his mind by the authoritative divulgation of quantities less than no quantity and infinitely less than no quantity: a bewilderment which gradually yielded to the lethal effect of a sufficiently oft-repeated formula, accepted as significant with the trustfulness natural to youth and ignorance at the bidding of the pastor and master".

Mr. Berkeley's view of the nature of the 'extensions of the number-concept' seems to us a notable approximation to the view which modern research into the logical principles of mathematics has shown to be, in all probability, the true one. He says (p. 98): "'Quantity' is the name of a relation the conceiving of which is in no way modified when we combine with it that of opposition in measure between the 'things' quantitatively related; and the case is in no wise altered when, the nature of the 'things' becoming indifferent to the purpose of our thought, we make abstraction of them altogether and confine the subject of thought to this abstract combination of quantitative relation and opposition in measure.

This amounts to saying that the term 'algebraic quantity,' or its equivalent in algebraic symbolism, expresses this abstract combination, and not any modification or extension of the idea of quantity."

A modern mathematical logician recognises that a number a is a class, while the relative number symbolised by '$+a$' is, like $-a$, a relation;[1] so that we cannot identify a with $+a$. This Peano virtually admitted by calling, in his *Formulario*, the definition $(+a = a)$ an "irregular" definition, made to bring strict logic into conformity with the excusable conventions of mathematicians.

At this place we may notice that mathematical logicians have rejected the "principle of permanence" which had become the mathematicians' orthodox explanation of the "generalisation of number" from integers to rational, irrational, and complex numbers, each class including all the classes which precede it.[2]

We think that Mr. Berkeley is, like Stallo, in the right against the older popular exponents of non-Euclidean geometry. But the views which Mr. Berkeley shows to be mystical are not the modern views. For instance, on page 154, Mr. Berkeley quotes from Couturat[3] the opinion that the point is the indefinable element of all systems of geometry. Now, both Russell and Couturat gave expositions of the previous logical theories of geometry of Pasch, Peano, and Pieri, before announcing Russell's discovery that geometry needs no indefinables, such as were used by the writers just named. And, rather further on, Couturat[4] said of Russell's definition of the class of projective spaces that "it implies no indefinable notion, since straight lines are defined as relations of a certain type, and points are conceived as the (problematic) terms of these relations, so that their notion does not really come into the theory. Nor does it imply any indemonstrable primitive proposition, since all the postulates of projective geometry now form a part of the definition of the class of projective spaces, and constitute the hypothetical properties of these spaces. We do not affirm any of these postulates categorically; we only affirm that, *if* a space has such properties enunciated in its definition, it will possess besides such other properties enunciated in the theorems. Thus projective geometry is reduced to the form of a vast *implication*. . . ."

Mainly owing to the development of non-Euclidean geometry, geometers have been led to abandon the view that geometry is a certain system of propositions deduced from premises which were

[1] Russell, *op. cit.*, p. 244; Couturat, *op. cit.*, pp. 80-81; *cf.* p. 88.

[2] Russell, *op. cit.*, p. 377; *cf.* pp. 150, 270; Couturat, *op. cit.*, pp. 89-90; Peano, *Rev. de Math.*, t. viii., 1903, pp. 84-87; Frege, *Über die Zahlen des Herrn H. Schubert*, Jena, 1899.

[3] *Op. cit.*, p. 127; *cf.* Russell, *op. cit.*, p. 382.

[4] *Op. cit.*, pp. 158-159; *cf.* pp. 180, 204-208; *cf.* Russell, *op. cit.*, pp. 397, 429-436.

supposed to describe the space in which we live, and to regard geometry as a subject in which the assertions are that such and such consequences follow from such and such premises, not that entities such as the premises describe actually exist. That is to say, if Euclid's axioms be called A, and P be any proportion implied by A, then older geometers would assert P, since A was asserted; but nowadays, the geometer would only assert that A implies P, leaving A and P themselves doubtful. Thus geometry no longer professes to throw any direct light on the nature of actual space.[1]

In the main, we agree with Mr. Berkeley's criticism. It appears to us quite certain that many mathematicians of eminence have fallen a prey to the mysticism which he attacks usually with such vigour and correctness, and his book is a valuable contribution to the explaining of the paradoxical remark (pp. 6-7) that one hears so often, that some people have logical but 'unmathematical' minds.

But, although Mr. Berkeley's criticisms often, unlike the various orthodox expositions of the foundations of mathematics, agree with the careful work of modern authors like Frege, Peano, and Russell, on the principles of mathematics, Mr. Berkeley does not seem to be well acquainted with this work; and it is this work which most emphatically deserves the title of "modern," but seems to us, owing to its almost continual use of a powerful and subtle symbolic logic, and logic alone, quite free from mysticism.

PHILIP E. B. JOURDAIN.

The Letters of John Stuart Mill. Edited, with an Introduction, by HUGH S. R. ELLIOT; with a Note on Mill's Private Life, by MARY TAYLOR. Vol. i., pp. xlvi, 312; vol. ii., pp. 408. Six portraits.

ALTHOUGH a good deal of family correspondence still remains in MS. that would cast light upon the life and character of the most eminent philosopher of the middle of last century, possibly very little will ever be printed in addition to the materials contained in these volumes. The letters here published are chiefly from rough drafts preserved by Mill himself, many of which he had marked "For publication": others, filling the first 120 pages, are from the originals addressed to John Sterling, and from copies of those that were written to Carlyle and Lytton Bulwer. Letters that have already appeared in other collections are not included. The series extends from 1829 to the last months of Mill's life, and fully illustrates his social, literary and political activities. Besides the letters, there is a Diary (Appendix A), from the 8th of January to the 15th of April, 1854: it gives no account of his life, but is designed to record

[1] Russell, *op. cit.*, pp. 372-374.

each day at least one thought relating "to life, feeling, or high metaphysical speculation," that should be worth writing down. On the whole, these volumes show us the growth of Mill's reputation through the ever-widening circle of his correspondence with friends and strangers, at home and abroad, but do not add much to the knowledge we already have of his character and opinions. Much the most interesting portion is the first half-volume, reaching down to the time of his marriage. The early letters to Carlyle and Sterling throw some light upon the state of his mind during the period when, becoming dissatisfied with the doctrines of Bentham and his father, in which he had been too exclusively trained, he experimented (as it were) with the influence of poetry, religion, and mysticism.

The well-known crisis of Mill's life seems to have begun in 1828, and is marked in this book by the first letter (1829), which is addressed to Sterling, and mentions his sense of loneliness and incapacity to sympathise with others. In the *Autobiography* this stage is compared to the experience of Methodists in conversion; but that hardly explains it. Conversion is the socialisation of the egoistic child-character, usually coinciding with the maturation of sex-character, and taking place under religious influences; because religion has always been a sanction of social obligations. But socialisation, like everything else in Mill's life, had been anticipated by education, so far as intellectual education could do it. We know of no crisis at which he first became vividly aware of the claims of others, or of his country, or of mankind: these things had always been kept before his mind. What happened when he was about twenty was, I conceive, that, in the first place, he suffered from nervous exhaustion and, at the same time, from the need of personal affections, which his home life had failed to gratify. The want of affection had much the same effect as what we call 'home-sickness,' when we miss the opportunity of indulging many instinctive or customary activities. Just then, or very soon after, he fell in for the first time with men whose opinions and sentiments, in some directions, differed widely from what he had been accustomed to consider as the sole standard of reason, but whom he was compelled to respect or even admire. His affections, constitutionally very warm, fastened eagerly upon these men, especially upon Sterling, with whom he formed, and upon Carlyle, with whom he believed himself to have formed, a sort of heroic friendship. This led him to enter into their ways of thinking and feeling not only with toleration but with a desire to agree with them, which showed itself by an exaggeration of the degree in which he did agree with them and of the degree in which he differed from his former associates.

Thus, in the second letter to Sterling (1831), he sets forth his "ideas of a Church establishment," ideas that cannot indeed have satisfied his correspondent, but would have been still less acceptable

to James Mill. He goes on to say that he has visited Wordsworth, and that all his "differences with him, or with any other philosophic Tory, are differences of matter-of-fact or detail," while with the Radicals or Utilitarians his differences are as to principles. About seven months later, speaking of 'self-culture,' he says that he does not mean by that word "to prejudge anything whether such culture can come from man himself or must come directly from God". In the same letter his style breaks into picturesque simile; he discovers that human life is like a river, and works out the parallel with the zest that is apt to accompany a sense of origination; apologising, however, for "the habit of moralising and poetising which has grown upon me". But he was not deceived as to the direction of his powers: in October, 1831, he says, "I have put down upon paper a great many of my ideas on logic," and "the only thing I am really fit for is the investigation of abstract truth, and the more abstract the better".

Carlyle, "a great hunter out of acquaintances," he first met in 1831. His appreciation of Carlyle grew rapidly. Next year he writes: "Your parting gift, the paper on Biography and on Johnson, has been more precious to me than I well know how to state"; I have "derived from it more edification and more comfort than from all else that I have read for years past". In the earlier letters to him there is a charming humility. Mill knew his own superiority to other men; but he also knew his limitations, and had the warmest admiration for all the gifts he lacked. "You," he says, "I look upon as an artist, and perhaps the only genuine one now living in the country; the highest destiny of all lies in that direction." Later he writes: "I conceive that most of the highest truths are, to persons endowed by nature in certain ways, intuitive; that is, they need neither explanation nor proof, but if not known before are assented to as soon as stated. Now it appears to me that the poet or artist is conversant chiefly with *such* truths, and that his office in respect of truth is to declare *them* and to make them impressive." But he begins to feel that eagerness to agree with his friends is leading him into some degree of insincerity: "it seems to me that there has been on my part something like a want of courage in avoiding, or touching only perfunctorily, with you points on which I thought it likely that we should differ. That was a kind of reaction from the dogmatic disputatiousness of my former narrow and mechanical state." Accordingly, in January, 1834, he makes a clean breast of it as to the most important matters, "a merely probable God," uncertainty as to immortality, adhesion to Utilitarianism, though he is not "one of the people called utilitarians". These letters come to an end with the arrival of Carlyle as a permanent resident in London. It is greatly to be regretted that we have none of Carlyle's letters in reply. We know from Carlyle's *Reminiscences* and from the *Letters of Jane Welsh Carlyle*, that for some years there was a good deal of intercourse

between them. Visitors, Carlyle says, his wife had in plenty, "John Mill, one of the most interesting, so modest, ardent, ingenuous, ingenious, and so very fond of me at that time"; but, in some ten years, intercourse came to an end, "why, I never rightly knew".

There was of course a continual divergence of their ideas and sentiments. After "that period of *recovery* after the petrifaction of a narrow philosophy in which one feels *quite sure* of scarcely anything respecting truth, except that she is many-sided" (vol. i., p. 67), Mill in fact obtained a more complete command of his former principles. In the *Autobiography* he speaks (with some illusion of memory) of "my early opinions, in no essential part of which I at any time wavered" (p. 168). His friends had helped him to acquire a wider knowledge of human nature and society: of what kind may best be read in his *Essay on Bentham*, where he sums up the shortcomings of his former teachers. But his object in life remained, "to be a reformer of the world"; his experiential philosophy remained; his utilitarianism (with modifications uninteresting to Carlyle); above all his method. To nothing could he have been more averse than to Carlyle's worship of the *Übermensch*. In Mill's Diary we read: "Almost everything Carlyle says of Goethe appears to me to be mistake and misapprehension" (6th Feb.). Again (11th April), "the Germans and Carlyle have perverted both thought and phraseology when they made Artist the term for expressing the highest order of moral and intellectual greatness. The older idea is the truer that Art in relation to Truth is but a language. Philosophy is the proper name for the exercise of the intellect which enucleates the truth to be expressed." In temperament no two men could be more opposite. They walked together very often on Sundays "with a great deal of discourse," says Carlyle in the *Letters* of his wife, "not worthless to me in its kind". But in the *Reminiscences* he says: "Dialogues fallen all dim, except that they were never in the least genial to me". In fact Mill was felt to be "rather colourless, even aqueous—no religion in almost any form traceable in him". Gradually, and perhaps unwillingly, becoming aware of this, how could he continue the intercourse?

There may have been something further. In Carlyle's *Reminiscences* we find that Mill "had by this time introduced his Mrs. Taylor too; a very will-o'-wispish iridescence of a creature; meaning nothing bad either. She at that time considered my Jane to be a rustic spirit fit for rather tutoring and twirling about when the humour took her; but got taught better (to her lasting memory) before long." The parenthesis is as important as a postscript. Moreover, a little later, "The Mrs. Taylor business was becoming more and more (we could see) of questionable benefit to him". Still later (31st July, 1843), Mrs. Carlyle, after retailing an absurd story about Mill to her "man of genius," concludes: "He begins

to be too absurd that John Mill ". Evidently there was unanimity in that household, a state of mind that could not be disguised. Mill never felt estranged from them as they did from him; and the failure of this friendship, begun so warmly, may have contributed to determine Mill's withdrawal from society during the next twenty years.

This brings us to the second point, and the only other very important one, upon which these volumes give some interesting information: Mill's marriage and the influence his wife had upon his life and opinions, from 1831, when he first made her acquaintance, until her death in 1858. Even in this matter there is very little to add to what Bain says in his *Criticism.* His wife had no effect on the *Logic,* nor on the *Examination of Hamilton* (which was written after her death), nor on the scientific part of the *Political Economy* and *Representative Government;* in fact with none of the work which, in his own opinion, " he was really fit for, the investigation of abstract truth ". There remain *The Subjection of Women,* the literary treatment of the *Liberty* (for surely the doctrines of that work were traditionary with Mill) and the socialising of certain economic opinions. What we learn more about in the volumes before us is his view about marriage itself.

Opposite page 158 (vol. i.) a facsimile is given of a statement, signed by Mill on his marriage, repudiating the legal consequences of the act: " the whole character of the marriage relation as constituted by law being such as both she and I entirely and conscientiously disapprove, for this among other reasons, that it confers upon one of the parties to the contract legal power and control over the person, property, and freedom of action of the other party, independent of her own wishes and will ". Being unable legally to divest himself of such odious powers, he enters this formal protest, and declares that Mrs. Taylor " retains in all respects whatever the same absolute freedom of action, and freedom of disposal of herself and of all that does or may at any time belong to her, as if no such marriage had taken place," etc. The marriage contract is still unfairly onesided, and it was much worse in 1851; but still it does, and did, give important rights to the woman; and on Mill's theory of the equality of the sexes, it would be necessary that she should likewise repudiate them; and then I cannot see that anything that has ever been called marriage any longer remains. Compare the remarks upon divorce at page 187, vol. i. (1855). In the Diary under 26th March, he goes still further. Seeing no likelihood of ever writing out his views upon this subject at length, he desires, he says, to leave it on record that " Any great improvement of mankind is not to be looked for so long as the animal instinct of sex occupies the absurdly disproportionate place it does therein; and to correct this evil two things are required: firstly, that women should cease to be set apart for this function, and should be admitted to all other duties and occupations on a par with men; secondly, that

what any persons may freely do with respect to sexual relations should be deemed to be an unimportant and purely private matter, which concerns no one but themselves. If children are the result, then indeed commences a set of important duties towards the children, which society should enforce upon the parents much more strictly than it now does. But to have held any human being responsible to other people for the fact itself, apart from this consequence, will one day be thought one of the superstitions and barbarisms of the infancy of the human race."

That these opinions were matured in conversations with his wife and under the influence of their peculiar circumstances can hardly be doubted; but they did not originate with her. For in the *Autobiography* (p. 167) he says that what he most honoured in the St. Simonians, with whose speculations he was already familiar in 1831, was "what they have been most cried down for—the boldness and freedom from prejudice with which they treated the subject of family". It is greatly to be regretted that Mill did not publish at length his opinions upon this subject, instead of merely leaving his conclusions for publication (for the Diary was meant to be published) without reasons to justify them. His *Subjection of Women* is fairly argued, and any one who does not agree with it may, if he likes, reply in detail. But for his views of marriage no reasons are given: they derive their interest solely from his reputation. Any one who does not agree with them may feel tempted, therefore, to disparage his reputation, may even think it a duty to do so. To me such a course would seem needless; because the prevalence of such views does not depend upon any one man, however eminent. They are common enough; though rarely published in this country, or acknowledged, except in the confidential intercourse of coteries: a natural rank growth of 'the human mind left to itself,' they are usually entertained in a spirit very different from Mill's.

Still one cannot help regretting that it should be possible to claim Mill's authority for a bald conclusion without any of the grounds and explanations by which he would certainly have raised it into an ideal region and given it a place in some systematic view of human life. How he would have done it effectually I cannot surmise. In his *Essay on Coleridge* he says: "The second condition of permanent political society has been found to be the existence, in some form or other, of the feeling of allegiance or loyalty"—"that there is in the constitution of the State *something* which is settled, something permanent and not to be called in question". Is there not also a condition of the permanence of society itself, something settled and not to be called in question; and does anything better deserve this place than legalised marriage? Not that to call it in question should be forbidden or penal, but that there should be such "a feeling of allegiance" as to make all such questionings vain. As men and women exist at present, and as they are likely for some ages to remain, the sexual relations contemplated by Mill

would make the enforcement of "important duties toward the children" impossible: paternity could not be traced; there would be a return to matriarchal conditions. This objection he might have set aside by alleging the essential equality of mankind and the power of education. In the Diary (13th Ap.) we read: "A slight change in education would make the world totally different". Well, we have now witnessed a slight change in education.

Some of Mill's expressions of admiration for his wife that occur in the Diary (she was then a confirmed invalid) surpass everything of the kind that has yet been published; they recall the raptures of saints. "If human life," he says (14th Feb.), "is governed by superior beings, how greatly must the power of the evil intelligences surpass that of the good when a soul and an intellect like hers, such as the good principle perhaps never succeeded in creating before—who seems intended for an inhabitant of some remote heaven, and who wants nothing but a position of power to make a heaven even of this stupid and wretched earth—when such a being *must* perish," etc. There is a sort of profanity in quoting such words, and I would not do it in a popular journal; but we must realise how overwhelming were his sentiments. Having one day asked Bain what we ought to think of this matter, he answered pathetically: "Ah, well: Mill was in love". Love, like hypnosis, produces a paralysis of attention, prevents attention to other things, and therefore comparison, and therefore judgment. Most of us suffer some such incapacity through absorption in our own pursuits or our own theories. Mill's was a nobler weakness. So far as he was aware of his passion, it was entirely a spiritual enthusiasm: Mr. Elliot in his Introduction says that Mill was deficient in the instinctive life. Yet such deficiency can hardly have been inborn. Mill was one of a large family, and originally of an unusually strong constitution. The defect, therefore, was due to education. I suppose Freud would say that the normal disposition had become a 'suppressed complex': for the most part 'sublimated,' that is, its energies turned into other channels; but not extinguished; displaying its secret power in imaginative attractions and aversions, and in somewhat fantastic schemes of social life. However, an imaginative passion may have tragic consequences: Miss Mary Taylor's Notes on the disturbance or rupture of relations with Mr. Taylor on the one hand and, on the other, with Mill's own family, are very painful.

CARVETH READ.

The Idea of the Soul. By A. E. CRAWLEY, M.A. London: A. & C. Black, 1909. Pp. viii, 307.

MR. CRAWLEY, who is well known among anthropologists as the author of *The Mystic Rose* and *The Tree of Life*, essays in this book to refute Prof. Tylor's widely accepted account of the origin

of animism, and to establish a novel hypothesis in its place: "The sole object of the present inquiry is to apply what psychology gives us to the problem of the origin of the idea of the soul". Prof. Tylor, it seems, was so unfortunate as to complete his account of the origin of animism "before psychology could assist the explanation". "In his explanation of the latter [the origin of animism] there is no psychological precision—the fact being that his explanation was completed before the development of experimental psychology." "The statement which to-day passes for a solution [*i.e.* Tylor's account] is little more advanced than that of Hobbes, two hundred and fifty years ago, or even than those of Aristotle and the still earlier Greek thinkers whom Lucretius followed. For all practical purposes we are no nearer a solution than were the thinkers of more than two thousand years ago. Yet this problem is the simplest, as it is the first, of all the problems presented by mental evolution in man. When once Anthropology employs the verified experimental results of psychology the solution is obvious. The origin, not only of the idea of the soul, but of the idea of a spiritual or supernatural world, is then automatically explained." And the lack of experimental psychology was not the only grave disadvantage under which Prof. Tylor laboured in restating the theory of two thousand years ago. At the time he wrote his celebrated work Mr. Crawley had not yet given precision to the methods of anthropological research, which hitherto have been "merely those of unaided common sense".

The opening pages, the tenor of which is sufficiently indicated by the foregoing extracts, are calculated to excite in a high degree the anticipations of the reader. If it should appear that Mr. Crawley has succeeded in substantiating these large claims, this book would have to be accorded the high place of one that marks an epoch.

The refutation of Prof. Tylor's theory is extremely simple. That theory attributed the origin of the idea of the soul in the main to reflexion upon the facts of dreaming, hallucination, sleep, trance, and death, especially the first. Mr. Crawley (and this seems to be his principal contribution to the reform of anthropological method) lays down the canon that "in order to explain a universal phenomenon, such as the belief in the soul, normal and universal, not abnormal and occasional, causes must be assigned". But dreams, hallucinations, sleep, trance, and death are "abnormal and occasional" events. Therefore they cannot be assigned as causes of the "universal phenomenon," the origination of the idea of the soul. To a less exacting writer this syllogism might have seemed sufficient in itself to refute the generally accepted view. But Mr. Crawley supports it with a number of equally remarkable statements and reasonings, the value of which may be illustrated by the following extracts: "It is psychologically impossible for the idea of the soul, as we actually find it, to be originated by the inferences

from dreams. In the first place, there is frequently at some point during the dream a semi-conscious realisation of self, that is to say, of the self as viewing things and persons in the dream. In the next place, dream-figures are no less intense, generally more intense, and therefore more real, sometimes even larger, than what is seen when awake. It is quite erroneous to speak of dream-figures as 'phantoms'. . . . Can such an intensely real sight produce the idea of 'souls being ethereal images of bodies,' or the idea of a still more ethereal 'phantom'?" "A personal concrete entity like the soul can only be developed from sensations, chiefly visual." We pass on from the first chapter, which is devoted to the refutation of the hitherto celebrated dream-theory, prepared for the revelation of the true theory by the assurances that "Psychology supplies an infallible test; it proves what can exist, and what can not exist in the brain, and at what stage of evolution a phenomenon can appear"; and that "we shall find that the idea of the soul is an automatic result of elementary mental processes". The revelation is made in the third chapter. "Spiritual existence is mental existence; the world of spirits is the mental world. Everything that can through perception lay the foundation of a memory-image can claim the possession of a soul, an existence in the spiritual world here and hereafter. And this world is, in the incomplete and long-suffering term, the supernatural." For the idea of the soul of any man or thing is nothing more or less than the visual memory-image of that man or thing. Primitive man visualised the objects that he had seen. But "Many men pass through life without realising the existence of the memory-images which form all their thought," and this was the case of primitive man, until suddenly this "naïve person, who has never yet seen or realised a memory-image," becomes aware of his memory-images, and in so doing discovers "a new world of mental objects. For this is what his discovery amounts to—a new world. This discovery, doubtless one of the earliest, was more pregnant with possibility than any discovery since made by man, inasmuch as it was his first acquaintance with the soul and with the world of spirits, in other words, with mental existences. . . . In the one case, then, perception, our subject has the person or object, the thing; in the other, memory or thought, he has the soul of the thing. The idea of the soul is thus an automatic result of the reaction to perception; it is a mental repetition of sensation." "When primitive man first saw an object in memory he saw the soul for the first time; he was then conscious of something besides the thing—the mental replica, the thought of the thing."

The third chapter, in which this novel suggestion is made, is followed by a long chapter on 'Prescientific Psychologies,' which is a compilation of the beliefs about the soul entertained by savage and barbarous peoples in all parts of the world. I have read this chapter with care, but have found among all the many beliefs

described only one instance that might be held to lend colour to Mr. Crawley's suggestion, as against the accepted theory (the *Nunuai*, p. 100). All the rest are of the familiar types on which Prof. Tylor's theory is founded. The remaining two chapters are occupied with reasonings in support of the new view, of which it must be said that their psychology is as fantastic and their logic as slipshod as those employed in the "refutation" of Prof. Tylor's theory. They may be illustrated by an outline of the argument which Mr. Crawley seems to regard (rightly I think) as of the most weight. This argument (chap. v., § 4) runs thus: the human soul is sometimes represented by a doll about three inches in length; the memory-image of a man is usually about three inches in length; therefore the memory-image of a man is identical with his soul; further, "in Nias the heaviest soul weighs about ten grammes. Modern spiritualists estimate the average weight of the soul at three or four ounces," *i.e.* about the weight of a man three inches high; and again, the voice of the soul is thin and feeble, about as loud as the voice of a man three inches high. "Conscience is generally a still, small voice. To put it shortly, just as we have the size of the soul standardised to a miniature photograph, so its voice is that of its master's voice when heard through the telephone." Mr. Crawley, of course, does not state the argument in so bald a fashion as I have done. He mixes it up with extracts from text-books of physiology and psychology, the scientific flavour of which might disguise for some readers, as it seems to have disguised for the author, the absurdity of the whole mixture. And, not content with the statements found in the text-books, Mr. Crawley has plunged himself into the difficult waters of experimental psychology and has brought up from the depths the following confirmation of his views:—

"We have ourselves arrived by experiment at the result, that dream-images remembered on waking are very small, a human figure being about the size of a miniature photograph; that memory-images, where the attention is not concentrated, are very small, but do not lose detail and colour, and that the memory-image of a man at a distance of thirty yards is about the size of an object three inches high at a distance of eighteen inches, that is to say, the usual distance at which one holds an object for examination. Roughly speaking, this is the size of a *carte-de-visite* of the smaller sort, small enough to be grasped in the hand, as the medicine-man grasps the soul." These chapters contain many other gems worthy of being cited, but two must suffice. "Similarly the Chinese place the soul-tablet on the dead man in the hope of reviving him. This is the method of superimposition, a translation into action of what occurs when the memory-image is merged in or placed upon the percept. The idea of the soul as an eject, which is replaced through the apertures of the body, comes from analysis of the percept; in this form it is not fused with the memory-image;

the latter, in fact, is temporarily ignored." Again: "It is a common belief that the soul is restless, and wanders aimlessly about until the body is buried. This is the behaviour of the memory-image until it is safely embodied in the percept, or some symbol which takes its place."

Enough has been said to illustrate the quality of Mr. Crawley's psychologising. As to his anthropological method, in which we were led to anticipate some striking reform, it must suffice to say that he repeatedly falls into the besetting vice of anthropologists of the loose-thinking kind, *i.e.*, from the whole immense mass of recorded statements about savages he selects one or two that are in accordance with his view, or in disagreement with a rival view, and seeks in this way to establish, or to overthrow, sweeping generalisations about *the savage* or *the primitive man.* Thus in treating of 'animatism' (the word used by Mr. Marett to denote a supposed stage of primitive thought antecedent to developed animism in which a vaguely conceived power (*Mana*, *Orenda*) is ascribed to many inanimate objects as well as to animals and men), Mr. Crawley, who tells us that "certainly animatism is a disease of the language of modern anthropology," quotes Mr. Dudley Kidd's statement that Kaffirs, on being questioned as to the animation of stones, said "it would never enter a Kaffir's head to think stones felt in that sort of way". If this single instance demolishes the doctrine of animatism, as Mr. Crawley seems to suppose, I may re-establish it by citing the equally relevant case of my old gardener who believed that stones multiply as potatoes do.

But that inadequate reasonings are advanced in support of an hypothesis does not prove it to be untenable; and though Mr. Crawley's chapters do not, in my opinion, establish the least semblance of plausibility for his 'memory-image doctrine,' it may be worth while to consider it seriously for a moment. To say, as Mr. Crawley does, that the idea of the soul is a visual memory-image or "a mental repetition of sensation" is, of course, as absurd as his statement that "the soul . . . is about three inches high"; but it is *prima facie* possible that the idea of the soul was reached by reflexion upon the experience of visual imagery in the waking state. The essential question at issue is, then: Was the idea of the soul reached by way of reflexion upon visual memory-images of the waking state, or did reflexion upon any or all of such experiences as dreams, hallucinations and the observation of trance, sleep and death, play the predominant part? It is of course impossible to say with absolute certainty; but surely it is more probable that primitive men were stimulated to reflexion, to feel the need of an explanation, of a theory, by experiences of the latter class, than that such stimulation was supplied by the introspective observation of memory-images of the waking state. That many savages remember and relate their dreams and attach importance to them is abundantly established; but that savages are prone

introspectively to observe, describe, or reflect upon their normal waking memory-images has never, to my knowledge, been shown; and, curiously enough, Mr. Crawley adduces throughout his book no single instance of such observation or reflexion. Yet, if such were the case, the fact would surely have been reported; and the proof of it must be the indispensable first step towards rendering Mr. Crawley's doctrine in any degree plausible. I conclude, then, that we have no reason to hesitate to continue to accept as in the main correct or at least highly probable that theory of the origin of animism which is generally associated with the honoured name of Prof. Tylor, and which Mr. Crawley would cast so unceremoniously upon the rubbish heap of prescientific doctrines.

W. McDougall.

Lectures on the Experimental Psychology of the Thought-processes. By E. B. Titchener. New York: The Macmillan Company, 1909. Pp. ix, 318. 5s. net.

Those who complained of the sensationalistic bias of *The Psychology of Feeling and Attention* find their answer in this volume, which sets out frankly to show that a sensationalism is fit to cope with the psychology of the thought-processes. Titchener now openly confesses to theoretical bias, which he curiously enough calls constitutional. He tells us how his mind is of the mixed ideational type, in which kinæsthesis is the fundamental and predominant element. All his thinking is ideated in imagery of some kind, although he detects in it no general relation between abstractness of thought and vagueness of imagery. "Attentional clearness seems to be the one thing needful to qualify a process for meaning" (p. 17). Even meaning itself is ideated by Titchener, in a way that reminds one of the philological methods of obtaining the meaning of a root; for him meaning means a "digging out" as represented by a little mental picture, just as for one of his students it means a "straightening out". The constitutional bias which these habits represent runs towards sensationalism. The weight of other minds may drag them towards the opposite. So the extreme verbal type might champion a pure ideationism or imageless thinking. We may ignore the irrelevancy of this suggestive introduction to a criticism of experimental work, but we cannot suppress our doubts regarding the validity of any law of bias. The psychology of thought may be in a very poor way still, but the psychology of bias is surely still worse. Everyday proverbs say that the speech or theory of a mind conscious of bias runs as often counter to as with its inclination. Let it suffice that Titchener's bias has been frankly confessed.

The sensationalism of the experimental psychologist which alone can be defended must be distinguished from the older form of the

doctrine in three respects. The modern theorist deals with existences, and not with meanings. Any meanings that may be encountered must be treated *sub specie existentiæ*, a method which Ebbinghaus applied to the study of memory with eminent success.[1] The second difference between the old and the new theories is that the latter considers elements as "processes whose temporal course is of their very nature, and not substances, solid and resistant to the lapse of time". That may be said to be a change necessitated by the greater knowledge of the detail and complication of mind that has been acquired. It is obviously unimportant to a psychologist who tries to be as precise in the definition of sensation and feeling as Titchener does. Otherwise, we may look for a third volume to tell us what is meant by process. The third difference actually states that the new way "is simply an heuristic principle, accepted and applied for what it is worth in the search for the mental elements; whereas the older sensationalism, just because it was a preconceived theory, required that the facts conform to it, whether they would or whether they would not" (p. 34). These are bold words for one who confesses to a constitutional bias and sets out to justify it. For the present it may suffice to suggest that a heuristic principle is surely of use only in a region where definite and successful search can be made independently (in principle) of certain problems which we cannot solve and which may be laid aside. Such a region is that of the connexion between body and mind. If Titchener is willing to look for sensations wherever there are meanings or other mysteries, and to lay aside the problem of the ultimate connexion between these two groups, he may have his principle, but not otherwise. Besides, what is the use of a heuristic principle to one who has a constitutional bias in the same direction?

In the second of these five lectures, Titchener discusses the reference to object as the criterion of mind on the basis of views of Brentano, Witasek, Stout, Bühler and others. His aim in doing so is obviously to clear the air for sensationalism. The act-and-content psychology Titchener believes to be a psychology of reflexion, not of observation, although "there are in a certain sense a hearing, a feeling, a thinking, which are distinguishable from the tone and the pleasure and the thought. Only the distinction comes to me, not as that of act and content, but as that of temporal course and qualitative specificity of a single process" (p. 60). With regard to the object of the idea, Titchener points out that the extra-mental reference to an object is by some authorities found wanting at times. Brentano and Witasek, further, claim that there is no such thing as objective reference in the physical

[1] But to do so would be to ignore the very thing that the psychology of thought is first concerned with — its qualitative elements. The mechanics of thought lies in another line of interest, and can be treated *sub specie existentiæ ad libitum.*

world. This peculiar pointing relation is not found in nature. Probably as many will disagree as will concur with Titchener's view that the very notion of an evolution implies this relation of forward pointing, especially when they read that he has no liking for vitalism, and even a definite dislike for teleology (p. 71). "Every constituent part of an organism," he says, "points to and implies all the other parts. In the same way, the ideational process which is the vehicle of a conceptual meaning is involved in a network of reproductive tendencies; it points to and implies all the special ideas that fall under the concept in question" (p. 72). But if objective reference is universal and has not a peculiar psychical form, why offer a theory of it in psychology? Bühler's objection to transcendence, as I take it, rests in part upon the insight that the sort of reference that reproductive tendencies can give is no proper substitute for that indisputable conscious reference sometimes called transcendence. I do not understand that he means to deny the frequent occurrence of conscious reference as such, any more than Titchener himself does in the end. It is surprising that Bühler's views do not appeal more to Titchener than they do, for he himself as a sensationalist has no use for transcendence. Titchener seems unduly to discount and ignore the arguments Bühler brings against the position Titchener himself finally takes. But, then, Titchener is so extreme and consistent as to conclude that "not mind but man, embodied soul and ensouled body, is the subject of which we may predicate a transitive reference" (p. 75). It is one thing to insist that mental states should be defined psychologically on the basis of differences of attributes and not psychophysically, and another, surely, to consign transitive reference to the psychophysical region. But not even then has Titchener got rid of the transitive reference.

It may be well to notice that the state of recognition presents as great a problem to the sensationalist as do any other states incompatible with his theory. We do not now suppose that that state implies the recurrence of one and the same sensation, just as we may agree that the mind does not transcend itself and reach out to the object. But it is hard for a sensationalist to see that no present theory of reproductive tendencies gives a full and adequate account of recognition, not even if it could show that associations do accompany it in every single case without exception. Yet no one tries to talk away the peculiar uniqueness of the state of recognition or to find recognition characteristic of the whole universe, though some approach to this extreme. The only reason for this I can see is that recognition has not attained the theoretical importance that is given to thought and its elements.

From the full and very thorough report of the experimental work on thought, only a few points need be noted. Of Messer's paper it is said that "as a mine of introspective information, it is perhaps the most valuable of those issued from the Würzburg

laboratory". "Bühler," on the other hand, "gave a turn to the inquiry which in my judgment has served to retard the progress of our knowledge." Titchener agrees with Dürr and v. Aster that any introspection regarding thought that Bühler obtained was not description but intimation (*kundgabe*), a sort of modified expression or tail-wagging, and therefore useless for theory. But the experimental investigation of thought, Titchener concludes, has set up a specific problem, has put forward a principle of explanation —the determining tendency—which must henceforth be reckoned with, and has ploughed up the whole field so extensively, that only detail-investigations can now be attempted by single workers. In that and in its general suggestiveness lies its value.

For the future Titchener would have us bear in mind what we hear repeatedly but never find wholly observed, that we must have psychology and not logic. Then, again, analytic must be supplemented by genetic considerations, both racial and individual. The third and last regulative maxim we have already encountered: we must remember that consciousness may be guided and controlled by extraconscious physiological factors, cortical sets and dispositions.

What remains of meaning after all this? Titchener believes that two ideas do, under certain circumstances, make a meaning. But what are these circumstances? "An idea means another idea, is psychologically the meaning of that other idea, if it is that idea's context" (p. 175). Of all possible forms of context, two are specially important—kinæsthesis and verbal images. Of these the former is the original, the latter is derived from it by what may be roughly called association. But meaning may have all sorts of imaginal forms. It may even be carried in purely physiological terms. Titchener tells us that some years ago, in the course of testing the recognition of shades of grey, he "was not at all astonished to observe that the recognition of grey might consist in a quiver of the stomach" (p. 179). He could not further describe the experience. "It was simply recognition without consciousness." There was therefore obviously more consciousness in the cases where the grey was not recognised. These statements are, he adds, made tentatively and subject to correction. They require confirmation from others. I do not know if Titchener means this to be an instance of the way in which a sensationalistic theory would deal with recognition. I confess I do not find his observation intelligible. Either he means that recognition in this case was accompanied by no other sensation than that of the quiver, in which case I fail to see why he connects the two, unless it be by the happy use of the heuristic principle, or else we have here a case of imageless recognition, which he finds it rather hard to accept. Finally, "I do not for a moment profess to have made an exhaustive exploration of my own mind, in the search for *Bewusstseinslagen*. But if there were any fre-

quent form of experience different in kind from the kinæsthetic backgrounds that I have just described, I think I am sufficiently versed in introspection and sufficiently objective in purpose to have come upon its track. . . . I have not been able to discover the imageless process" (p. 182).

Finally, what about feelings of relation? These do most assuredly exist, but their designation is equivocal. The question for psychology is: What do we experience when we have a 'feeling of relation'? For Titchener they are, of course, sensational and kinæsthetic. In others the process may be more automatic and mechanical than in him, and may therefore seem to them unanalysable and ultimate. But it is kinæsthesis all the same.

I am unable to conceive how intelligible these results are to Titchener, and how far they are induced by his heuristic principle. But even if every person had imagery when he had conscious relations and actual or excited reproductive tendencies when he had recognition, I should fail to find any identification of these terms convincing. Analytically their equation may read well enough at first sight, but synthetically it will not read at any time, be the images brilliant or mechanised, actual or potential. That seems to me as impossible as it is to juggle a particular sensation into a universal meaning by making it stand for many particulars. I think we should have a clearer view of the problems of psychology than the old sensationalists had, for we have them presented to us in many more trenchant cases than they had. Whatever theories of thought the future may bring, Titchener's sensationalism seems to be most impossible. The old theorists faced their problems and choked over them. I think Titchener shelves his by a process of learned self-deception, of which the chief elements may be repeated: (1) The irrelevant preliminary regarding constitutional bias, backed by the heuristic principle; (2) the blinding of the attention to facts of thought by the *species existentiæ;* (3) the solvent action exerted by the notion of process upon the precisely definable elements of the *Psychology of Feeling and Attention;* and (4) a somewhat too exclusive reliance upon the method of analysis as carried out by himself. It strikes me as rather curious that Titchener of all people should set up a general psychological characterisation of himself against the detailed work of several observers and the floods of introspective descriptions they gave us. We shall look with interest to an account of the experiments in which he made some of his observations, for I can hardly understand how even the simpler forms of association-reactions can be carried out so as to find imagery for all the meanings realised in them. But even if they can, things will remain precisely as they are.

HENRY J. WATT.

Philosophische Studien : Beiträge zur Kritik des modernen Psychologismus. Von DIMITRI MICHALTSCHEW. Mit einem Vorwort von Prof. Dr. JOHANNES REHMKE. Leipzig: W. Engelmann, 1909. Pp. xv, 573.

THIS book discusses, more or less fully, an immense number of different questions; and I cannot do more than indicate one or two of the points upon which the author seems most anxious to insist. He has arranged his matter, for the most part, in the form of an attack upon what he takes to be the most fundamental peculiarities of the position called 'Teleological Criticism' (particularly in the form in which Rickert advocates it): he criticises those main peculiarities one by one, and tries to indicate the most important respects in which they are connected with one another. But he also inserts near the beginning a long Excursus, in which he criticises the main positions of the 'Empirio-criticists'—chiefly Avenarius and Mach; later on he gives us a long chapter in which he tries to explain his own answer to the question in what knowledge (*das Erkennen*) consists; and he ends with a series of Appendices in which he expounds his own views on various points connected with what he has previously said.

One of his main objects, as his sub-title indicates, is to attack what he calls 'Psychologismus'. The 'Teleological Criticists,' the 'Empirio-criticists,' and also (in spite of the fact that their views are so widely different from those of these two schools) Husserl and Meinong are, in his view, all guilty of the fundamental error of 'Psychologismus'. And this fundamental error (which has also, in his view, been shared by an immense number of other philosophers) consists, so far as I can make out, in the assumption that what is 'given' cannot possibly 'subsist' (*bestehen*) independently of consciousness, and also, conversely, that anything which does 'subsist' independently of consciousness cannot possibly be 'given'. Different philosophers, by combining this fundamental assumption with different views on other points, have, Herr Michaltschew thinks, been led into a variety of different errors, some of the chief of which he tries to expose. Whereas, in his view, the truth is: (1) That what is 'given' may quite well, and very often does, 'subsist' independently of consciousness; and (2) that absolutely everything which does 'subsist' independently of consciousness must certainly be 'given'. The recognition of these two truths is, he seems to think, of great importance for philosophy.

But what exactly does he mean by the phrase 'subsisting independently of consciousness' and by the word 'given'? Obviously a great deal depends on these two questions. And, as regards the first of them, I am inclined to think that he does not always mean by it exactly what he might seem to mean. So far as I can make out, he himself does not hold that anything whatever can subsist independently of *all* consciousness. What he is plainly anxious to

insist on is only that what is 'given' to a particular consciousness (to me, for instance) may subsist independently of *the particular consciousness* to which it is 'given'; and, especially, that what is 'given' to us men, very often does subsist independently of *us*. But he seems to think that we must infer the existence of a non-human consciousness to which everything that subsists independently of us is always 'given' at all times when it is not 'given' to us (p. 555). Apparently, therefore, what he takes to be an error, and to be the fundamental error of 'Psychologismus,' is not the view that everything 'given' is dependent on some consciousness, but only the view that what is 'given' to a particular consciousness is always dependent on *that particular consciousness*. And it is, I think, very important to remember this when we come to consider what he means by the word 'given'.

As regards this word, I confess I cannot be sure exactly what he does mean by it. Considering how constantly he uses it, and what extreme importance he attaches to the conception (whatever it may be) which he intends to express by it, it is, I think, remarkable how little effort he makes to explain exactly what this conception is. But it seems to me that, whatever he may mean by the word, one or other of his main contentions must be mistaken. For, as we have seen, it is one main contention of his that a very great many philosophers have held or implied that what is 'given' to a particular consciousness can never subsist independently of that particular consciousness. And if this contention is to be true, we must surely understand the word 'given' in the comparatively narrow sense, which is, I think, its most natural one, namely = '*immediately* given' or '*directly* known'. But then, if we understand the word in this sense, his other main contention that everything which subsists independently of us is always 'given' to us, is surely hopelessly untrue. Can it possibly be maintained that everything which we know or know about at all is *directly* known to us? This is one horn of the dilemma to which Herr Michaltschew seems to me to be exposed; and I am inclined to think that this is the horn, which he does in fact adopt: *i.e.*, that he really does hold the extremely paradoxical view that everything which we know or know about at all is *directly* known to us. If so, it can only be said that he brings forward no arguments which have the least tendency to support this view. But there is one passage, which seems to suggest that it may, after all, be the other horn of the dilemma which he would adopt; for he says on page 536 that he means by 'given' *no more than* "Gegenstand meiner Betrachtung, meiner sinnvollen Beschäftigung". If he does mean this, then his contention that everything which I know or know about must be 'given' to me, may, I suppose, be admitted; indeed, it seems to be little more than a tautology. But then his other contention, that many philosophers have held or implied the contrary, seems now to become hopelessly untrue. For surely it

has scarcely ever been held or implied that absolutely nothing that I can "treat of significantly" can subsist independently of me? It has, no doubt, often been held that absolutely nothing can subsist independently of *consciousness*. But then, as we have seen, Herr Michaltschew himself seems to hold that this view is not an error. And whether he holds this or not, he certainly does imply that many philosophers have been guilty of holding the view that nothing which is 'given' *to me* can subsist independently *of me*.

Another main object of Herr Michaltschew's attack seems to be the distinction, which many philosophers have made, between 'validity' (*Gültigkeit*) and 'reality' (*Wirklichkeit, Sein, Realität, Existenz*). He himself holds the paradoxical view that nothing except a 'sentence' (*Satz*, by which he means a mere form of words, as distinguished from what is expressed by them) can properly be said to be 'true' or 'false'; but this is a comparatively unimportant point. What is important is his view upon the question what constitutes the difference between a 'true' sentence and a 'false' one. As to this, he is extremely anxious to insist that a sentence is 'true' if and only if it expresses something 'real' (*Wirkliches*); and he supposes that this is denied by those who make the common distinction between 'validity' and 'reality'. And so indeed it is, *verbally;* for the philosophers in question certainly do imply that a sentence may be 'true' provided only that it expresses something 'valid,' and that there is a sense in which what is 'valid' is not 'real' (*wirklich*) and does not 'exist'. But whether the dispute is anything more than a verbal one depends, of course, upon the question precisely what is meant by the word 'real'; and here again Herr Michaltschew does not seem to me to make plain exactly what he does mean by it: he seems scarcely to be aware that the word may possibly be ambiguous. Thus he frequently insists that to say "It is *true* that so and so is the case" is equivalent to saying, "So and so is really (*in Wirklichkeit*) the case"; and if, when he says that a true sentence must always express something 'real,' he means no more than that what it expresses must 'really' be the case, he is no doubt right. But then, if this is all that he means, it is not denied by those who make the distinction between 'validity' and 'reality': if this be what he means, then he means by 'reality' exactly the same thing which they mean by 'validity'. But I am inclined to think that this is not all that he means: I am inclined to think he supposes that when we say "So and so is *really* the case," we are using the word 'real' in exactly the same sense as when we say (for instance) that Julius Cæsar was a *real* person; *i.e.*, he supposes that every 'true' sentence must express something which 'exists,' in the sense in which particular things and persons exist at some times and not at others. If this is what he means, then undoubtedly the difference between him and those philosophers who make the distinction between 'validity' and 'reality' is more than a merely verbal differ-

ence: those philosophers do hold that what is 'valid' is not 'real' in the sense in which things or persons are 'real'. But, then, if this is what he means, it may be doubted whether he is right, and he certainly brings forward no arguments which have the slightest tendency to support his view.

I do not think that his treatment of most of the other points with which he deals is more successful than his treatment of these two.

G. E. MOORE.

The Moral Economy. By RALPH BARTON PERRY, Assistant Professor of Philosophy in Harvard University. New York: Charles Scribner's Sons, 1909. Pp. xvi, 267.

THIS little book, whose author is already favourably known by his *Approach to Philosophy*, is a real contribution to ethical discussion, written in a style which is not merely clear and graceful, but which has the quality of distinction. It is, he tells us, "the preliminary sketch of a system of ethics," and it cannot but awaken considerable expectations regarding the promised work. "Its form differs from that of most contemporary books on the subject because of the omission of the traditional controversies. I have attempted to study morality directly, to derive its conceptions and laws from an analysis of life. I have made this attempt because, in the first place, I believe that theoretical ethics is seriously embarrassed by its present emphasis on the history and criticism of doctrines; by its failure to resort to experience, where without more ado it may solve its problems on their merits. But, in the second place, I hope that by appealing to experience and neglecting scholastic technicalities, I may connect ethical theory with every-day reflexion on practical matters" (Preface). It is an interesting experiment, and the result, so far as it goes, is certainly very gratifying. The book ought to be read with interest and profit by many who would be repelled by a more technical and conventional presentation of the subject, and, speaking for myself, I should say that it will prove hardly less interesting and instructive to the student of ethics. It is a book which could only have been written by one who had thought and felt deeply about the problem of conduct, and who was at the same time widely read in literature, both ancient and modern. And in spite of his desire to avoid the reference to the history of ethical controversy, the author knows how to lay his finger upon what he wants in the classical discussions, and is thus enabled again and again not only to enrich his own statement, but also in many instances to illuminate the ancient text itself and give it a fresh meaning for the problems of the present. This is especially true of the chapter on "the moral criticism of Fine Art," one of the best in the book, which, we are told, is modelled upon the method of Plato and which concludes with "his familiar

summary of all the wisdom and eloquence that there is in the matter". At the same time the author has succeeded in entirely subordinating the history of ethical theory to the independent and first-hand discussion of the old problems as they reformulate themselves in our present experience.

The main divisions of the discussion are "the structure of morality," "the logic of its appeal," and "its more important applications"—to "the order of virtue," to the philosophy of history or the interpretation of moral progress, to Fine Art, and to Religion.

Starting with the acceptance of "the nucleus of morality" as "verified truth, the precipitate of mankind's prolonged experiment in living" (p. 7), and identifying its effort with "the enterprise of civilisation," or "the organisation of life," the author asserts the universality of its significance. "The moralist in the nature of the case can never be impertinent . . . because, contrary to the formula of the day, there is no such thing as virtue for virtue's sake. Morality is the one interest that virtually represents all interests" (p. 8). "To understand what morality really is, to recognise its claims, is to understand also its application, its critical pertinence to art and religion, to all the great and permanent undertakings of men" (p. 9). It is the unifying or organising principle through which "a plurality of interests becomes an *economy*, or *community of interests*" (p. 13). "The fulfilment of a simple isolated interest is good, but only *the fulfilment of an organisation of interests* is morally good" (p. 15). The various stages of virtue are simply the successive steps in the growing complexity and comprehensiveness of this organisation of life or its interests. The transition, for example, from Prudence to what the author calls Preference or Moral Purpose is simply a case of this progressive organisation of interests. "In prudence . . . there is strictly no preference, no subordination of motives. Action is controlled by an exclusive and insistent desire, which limits itself only with a view to effectiveness. It would appear, then, that if I am to justify those types of action which are regarded as more completely moral, *I must persuade you to adopt interests that at any given instant do not move you.* I must persuade you to forego your present inclination for the sake of *another;* to judge between interests, and prefer that which on grounds that you cannot reasonably deny is the more valid" (p. 50). The "higher" interest is, therefore, "simply the greater interest, and greater in the sense that it exceeds a narrower interest through embracing it and adding to it. . . . The higher interest owes its title to its liberality or comprehensiveness" (pp. 52, 53). The higher interest is entitled to replace the original or lower interests only because it represents and incorporates them in a larger whole of interests. "It follows that no interest can be condemned except upon grounds that recognise its claims, and aim so far as possible to provide for it among the rest. No interest can ration-

ally be rejected as having no value, but only as involving too great a cost" (p. 64). The transition from egoism to altruism is explained in the same way. "If your action fulfils your interest and thwarts mine, it is again mixed, both good and bad. In order to define the good act in the premises it is necessary, as in the previous case, to define a purpose which shall embrace both interests and regulate action with a view to their joint fulfilment" (p. 59). The ultimately controlling interest, therefore, is the total interest of humanity itself, and the formula of duty must be "so to act in fulfilment of the interest in hand, as either to promote or make room for all other interests". "Right conduct, since it is inconsistent with the least ruthlessness, must inevitably in the end assume the form of humanity and piety" (p. 67).

The application of the theory to the order or classification of the virtues follows obviously enough, and is developed with much skill in chapter iii. Reference has already been made to the discussion of "the moral criticism of Fine Art (chap. v.), from which one or two leading statements may be quoted. Speaking of the claim of art to exemption from moral criticism, Prof. Perry says: "In the first place, it is assumed that morality, too, is a special interest; and that if the artist or connoisseur lets the moralist alone, it is no more than fair that the moralist should let him alone. But this assumption is false; as false as though the athlete were to chafe at the warnings of his medical adviser on the ground that general health was irrelevant to endurance or strength or agility. . . . The second misapprehension that lends plausibility to the excuses of art is the assumption that the moralist is proposing to *substitute* his canons for those of art." But the moralist "is charged with defining and applying the principles which determine the good of interests on the whole; and while his conclusions can never replace those of the expert within a special field, they will always possess authority to overrule them" (pp. 174-176). Speaking of the *truth* of art, he remarks: "If art were only realistic in the full sense, an unequivocal representation of the laws of life, it would invariably justify and support the moral will; it would be idealistic" (p. 206). Many other statements of the kind might be quoted from this and other chapters of the book to show that the author is one of those of whom Matthew Arnold speaks, in a passage quoted by himself, "who have laboured to divest knowledge of all that was harsh, uncouth, difficult, abstract, professional, exclusive; to humanise it, to make it efficient outside the clique of the cultivated and learned, yet still remaining the *best* knowledge and thought of the time, and a true source, therefore, of sweetness and light".

JAMES SETH.

Kant's Begründung der Ethik nebst ihren Anwendungen auf Recht, Religion und Geschichte. Von HERMANN COHEN, Professor an der Universität Marburg. Zweite verbesserte und erweiterte Auflage. Berlin: Bruno Cassirer, 1910. Pp. xx, 557.

THE first edition of this book appeared in 1877. It now appears in a very much enlarged form. The earlier part has grown to almost twice its original size. The last 187 pages, treating of the application of the principles of Kant's Ethics to law, religion and history, are entirely new.

In a new edition of an important book on Kant we might expect to find use made of the abundant material made available by the researches of Beno Erdmann and others. Riehl, for example, in the new edition of his *Geschichte des Kriticismus*, published last year, has made striking use of Erdmann's *Aufzeichungen* and Kant's *Nachlass* to confirm and illustrate his interpretation of the *Critique*. The changes in Prof. Cohen's new edition are not due to his use of such material. There are no references either to Kant's *Nachlass* or his correspondence. The changes are none the less interesting for this. The author says in the preface that he has used the material provided by his own working out of Kantian problems in the second edition of his Kant's *Theorie der Erfahrung* and in his *Logik der reinen Erkenntniss* and *Ethik des reinen Willens*. The first edition insisted on the vital connexion between Kant's Metaphysic and his Ethics. It was only natural that after prolonged work on Kant's theory of experience and after the working out of his own system, thoroughly Kantian as that is, that he should have much to add to his original account of Kant's Ethics.

Prof. Cohen's interpretation of Kant is too well known to need further review; but it may be worth while to notice first those points in his exposition which the second edition has made more prominent, and secondly to consider that part of the book, the application of ethical principles, which is entirely new, and see how far that confirms or throws doubt upon the main lines of Prof. Cohen's interpretation.

The author says in his preface that the changes in the second edition are greatest in his account of the thing in itself. In his interpretation of Kant he lays stress on Kant's distinction of constitutive and regulative, and insists that Kant's idealism has nothing to do with the questions raised by subjective idealism, but as transcendental is concerned with the distinction between what is given in experience and the complete solution of the problems which experience raises but does not solve. The thing in itself, assumed originally as unknown substratum, came, he holds, to stand for the completion of a problem, and hence was identical with the idea. Therefore he concludes: "The idea remains the genuine root of idealism, the idea as thing in itself of the problem". This interpretation has its difficulties, but it has the great advan-

tage of accepting Kant's empirical realism and his belief in the objectivity of the sciences and of giving an intelligible account of Kant's conception of *a priori*. All Kantian students will be grateful for the masterly account of the real importance of logical distinctions in Kant's system given in the third chapter of the first part. Its purpose is to explain how the ideas are both the completion of the problems of the scientific understanding and the object of ethics, and therefore to connect Kant's ethics with his theory of experience. Prof. Cohen's account of Kant's ethics is based on the identification of the thing in itself with the idea regarded as ideal. Further, the distinction between the *a priori* which is the concern of philosophy and the *a posteriori* which science alone can furnish is applied also to ethics. Hence the notion of a pure ethic does not mean that all ethical questions are to be solved by *a priori* methods, but that constitutive *a priori* principles and regulative principles of application are both necessary in ethical as in scientific experience; *Ohne Anwendbarkeit keine Reinheit.* A pure Ethic is possible through the ideal notion of a community of autonomous purposes, and this ideal has reality as the perfecting of what is already implied in all moral action. The moral rules for this or that occasion are not deduced merely from the principle of pure ethic, but from the empirical circumstances in accordance with the principle, as the empirical laws of science are deduced in accordance with the principle of causation. On this view the application of *a priori* principles does not rest with philosophy, though it may be the concern of philosophy to show that the *a priori* principles are implied in the results of science.

When Prof. Cohen treats Kant's application of ethical principles from this point of view in the last part of this book, he seems to us to get into difficulties. He complains that Kant recognised in Ethics nothing corresponding to the mathematical science of nature, or in other words that the *Metaphysische Anfangsgründe der Rechtslehre* does not really correspond to the *Metaphysische Anfangsgründe der Naturwissenschaft.* He criticises Kant with much justice for exaggerating the element of force in law and for an inadequate conception of the state, with less reason he holds that Kant should have given up altogether the distinction between religion and ethics. His view is that Kant should have recognised law and the state as exhibited in history as showing the working out of the ethical ideal in the same way as the physical sciences exhibit the application of the *a priori* principles of experience. We are to understand law and the history of the state only in the light of the ideal. There is much truth in this conception, but surely it neglects the normative character of political theory and the great difference between the methods of politics and physical science. Law and moral practice can hardly be regarded as merely ultimate facts in which philosophy may discover principles but which it must not criticise, and they can be understood only if we

add to our apprehension of the ideal towards which they aim some understanding of how progress is actually made towards that ideal. The undoubted unsatisfactoriness of Kant's utterances in political theory is probably due to his not distinguishing as clearly as in his doctrine of experience between *a priori* and empirical elements. But to remove the difficulties in his theory we must not only make this distinction clear on the *a priori* side, as Prof. Cohen has so admirably done, but also examine the nature and methods of actual moral progress and consider how the differences between moral judgments and scientific inquiry must affect the application of *a priori* principles in either. On this point Prof. Cohen has little to say. This criticism is suggested by the contrast between the last part of this book, which seems scrappy and unconvincing, and the first three parts which give such a brilliant and profound justification of the *a priori* element in Kant's philosophy.

A. D. LINDSAY.

Studies in European Philosophy. By JAMES LINDSAY, D.D., Author of *Recent Advances in Theistic Philosophy of Religion*, and other works. William Blackwood & Sons, 1909. Pp. xxi, 370.

THIS is a collection of short Essays on various subjects connected with Philosophy and the History of Philosophy. The range covered by the Studies is immense. Some of them relate to ancient Philosophy, others to the systems of the Fathers and the Schoolmen, others to quite modern Philosophy. Three are devoted to French, Italian, and Spanish Philosophy; three others to the "metaphysical," "ethical," and "psychological development of our time". One is "a constructive Essay on Idealism," with special reference to Hegel and Berkeley. The volume represents in the main a contribution to the History of Philosophy rather than to Philosophy itself, but it is the work of a historian of Philosophy who has a position of his own and is well able to criticise and appreciate, as well as to chronicle, the systems and the tendencies which he examines. The range covered by the work is, however, so great and the amount of space devoted to each subject is so small that it is scarcely possible for a reviewer to do more than to say that the volume is very well worth the attention of all students of Philosophy. For most of us the chief value of the book will lie in the succinct account given of great periods of Philosophy about which most professed teachers and writers of Philosophy know little or nothing (*e.g.*, the recent philosophic output of Italy and Spain), and in the attempts to treat in a really philosophical manner periods and subjects (*e.g.*, "the philosophical doctrine of the Logos") usually abandoned to Theologians and ecclesiastical historians who have no pretensions to Dr. Lindsay's philosophical knowledge

and insight. Few students of Philosophy are so well informed as to be able to learn nothing from the critical and historical portions of Dr. Lindsay's book.

The "Constructive Essay in Idealism" may be described as an attempt to criticise Hegel's central position, and to suggest that its deficiencies can only be corrected by a genuinely Theistic Idealism. Some of the criticisms seem to me excellent as far as they go: the reservation is necessary merely because the Essay occupies only some thirty pages, and the author is obliged therefore to confine himself to generalities. "The vice of the Hegelian idealism, as represented by some of its most noted recent expounders, lies just in this, that it makes thought constitutive of reality, instead of interpretative of it, and, in so doing, gives the categories of thought an unwarranted place in the interpretation of the Universe" (p. 211). "There is thus a sense in which the individual is a whole, as well as a part. The individual part, as part of reality, may well cry out, should he find very real sides of his nature sacrificed on the shrine of 'organic' metaphor" (p. 213). "The absolute experience must mean the fulfilment of moral ideals no less than the answer to rational questions" (p. 216). "The search of Neo-Hegelianism for a principle of unity, and its sympathy with evolutionary conceptions, have rendered plausible a presentation in which things subsist without substance and originate without cause" (p. 224). The general drift of Dr. Lindsay's criticism may perhaps be sufficiently indicated by these sentences. When he comes to the reconstruction of Idealism, he shows a commendable desire to keep close to experience, and to recognise all facts and aspects of the real world. The doubt that will be left upon the mind of many readers is whether he has not sometimes simply left standing side by side statements which refuse to be reconciled. How God is to be made distinct from individual souls, while yet including them in such a sense that the notion of a "finite God" can be indignantly repudiated, Dr. Lindsay has hardly made clear. He explicitly rejects Royce's teaching that "our consciousness is a portion" of the Divine consciousness; and yet insists that "Perfect Being [*i.e.*, apparently God]—internally personalised and externally individuated—may embrace a plurality of distinctive and personal manifestations" (p. 222). I have the same feeling about the writer's attempt to outline a Metaphysic which shall avoid the subjective Idealism which he attributes not merely to Berkeley but to Hegel, and shall yet remain Idealism. "Bodies and their operations must, I hold, exist independently of our sensations of extensive motion, and resistance, and matter must be credited with agency in virtue of its primary properties. The world cannot be allowed to be a mere system of possibilities of sensation, as with Mill and Berkeley, for our experience is of objective things, and not merely of sensations; it cannot even be admitted to exist, as with the Neo-Hegelians, only for experience, since our knowledge is pre-

cisely such as testifies to extra-mental reality" (p. 225). This last expression, "extra-mental reality," is hard to reconcile with the belief in "the Infinite Spirit of God as the one underlying Reality" (p. 225). That things exist outside my private mind no post-Kantian Idealist is likely to deny. But it may be questioned whether this can be for any sort of Idealist an immediate judgment, and not rather an inference forced upon him by the necessity of explaining the identity of some of his experiences with those of others, which he discovers through intercourse with his fellows. If Dr. Lindsay presses the immediate affirmation of common-sense that the table which I touch exists quite independently of my touching it, will not this involve him in ordinary dualistic Realism? 'Common-sense' assuredly will not be satisfied by being told that the table is indeed 'extra-mental,' but is yet after all only a part of a Reality which is all "Spirit". Though I cannot pretend to find Prof. Lindsay's solution wholly satisfactory, the attempt makes me wish that he would undertake a systematic exposition and defence of Theistic Idealism. The wish is strengthened by the perusal of the three chapters on "the philosophical developments of our time". They are full of highly suggestive criticisms and hints at a constructive Philosophy. The suggestions are always interesting, and sometimes even brilliant, but they are very imperfectly worked out. This is of course inevitable in the attempt to touch upon so many subjects in a single volume of 370 pages. It is at once the defect of such a volume, and the highest compliment that can be paid to it, to say that it leaves the reader unsatisfied.

H. RASHDALL.

VII.—NEW BOOKS.

Epochs of Philosophy (Edited by J. J. Hibben): *Stoic and Epicurean.* By R. D. Hicks. London: Longmans, Green & Co., 1910. Pp. xix, 412.

What promises to be a useful series of text-books in the History of Philosophy opens well with this generally well-informed and very readable volume. In the main I can heartily recommend Mr. Hicks's work to the English reader anxious to make a first acquaintance with the third-century Greek philosophical systems. If I might suggest one or two general criticisms as to points which might be considered when the book reaches its second edition, I would urge that, as regards the Stoics, the author might ask himself whether the Socratic elements in their doctrine do not depend rather less than he follows the fashion in assuming on the "Cynics" and more on the Platonic tradition derived through Xenocrates. Also it would be an improvement to make it clearer that the Stoic categories are a direct attempt to reproduce Aristotelianism with a materialistic colouring. *E.g.*, the ποιόν is simply the Aristotelian εἶδος understood in a materialistic way as a current of πνεῦμα with a particular intensity of τόνος. Mr. Hicks, by the way, should hardly have written of the first category as "Being *or* Something" without explaining that the terms are not equivalent; the original name was ὄν which was afterwards altered to τί on purpose to include the "incorporeals": which are not ὄντα according to the Stoics. It is a more serious defect of arrangement that we hear nothing of the Academic polemic against Stoicism until we come to the chapters on Scepticism at the very end of the volume. The consequence is that the reader runs the risk of failing to see that the polemic of Carneades is really the turning-point in the whole history of Stoicism, since it must have been its annihilating effect which led to the remarkable reconstitution of the whole system by Posidonius. This leads me to observe that the most serious defect of Mr. Hicks's volume is his failure to appreciate the significance of Posidonius, who is barely mentioned in a footnote as an "heretical" Stoic, and cited once and again as a specimen of the tendency to Eclecticism in the first century B.C. What is not brought out as it should be is that Posidonius was the one man of real scientific genius the school produced, and that it was due to his brilliant accomplishments that Stoicism, which had previously been the faith of estimable but rather ridiculous faddists, became a possible philosophy for the world. The author's failure to see that only the genius of Posidonius made it possible for the school to survive the attack of Carneades causes his account of the Roman Stoics to be a little puzzling. Any reader will discover for himself that, even in their English presentment, Seneca and the Stoic figures in Cicero, and the Emperor Marcus are not quite of the same type as the original followers of Zeno, but what has crossed the stock is not made sufficiently plain by Mr. Hicks. It is in reality the vein of Platonism in Posidonius.

Mr. Hicks does not seem to feel quite as much as I do myself that the same kind of difference exists even between two Stoics so nearly contemporary as Seneca and Epictetus, the former of whom is saturated with the cosmology and psychology of Posidonius, while the latter, for whom these subjects had less attraction, remains in the main faithful to the rather wooden intellectualism of Zeno and Chysippus.

The treatment of Epicureanism is full, sympathetic, and learned. In fact its one defect, to my own mind, is that it is too sympathetic. It is really a mistake to take Epicurus as a man of science seriously at all. His real place, as far as science goes, is with the earth-flatteners and the secularist orators of the London parks. His physical theories are simply the scientific Atomism of Democritus ruined and made laughable by the attempt to amalgamate it with the Physics of Aristotle; in the whole of his Ethics there is not one idea which has not been either appropriated from or suggested by the desire to controvert the *Philebus* and the *Ethics*. The real worthlessness of what Epicurus was pleased to call his "philosophy" may be gauged by the single consideration that he included an ultra-sensationalistic theory of knowledge, and the ultra-rationalist doctrine of Atomism (which can only be maintained, as Democritus had seen, by regarding sense-perception as inherently illusory), as parts of a single "system".

I could wish Mr. Hicks had called attention to the supreme importance for the study of Epicurus of the Academic dialogue *Axiochus* which, as Immisch has shown, belongs to the first years of Epicurus' activity at Athens, and opens the long controversy between the Academy and the Garden, as the representatives of the religious and the secular interpretations of life. Another work of which mention should have been made is the *De Mundo*, an admirable product of the Posidonian school, which would have lent itself naturally and usefully to comparison with the poem of Lucretius. When all allowance has been made for the poetic genius and impressive moral personality of the Epicurean poet, it would appear, I think, that the Platonising Stoic represents at once genuine piety and true science as against the eternal combination of sham science with secularism.

With regard to the interesting chapter on ancient scepticism, I should like to throw out a suggestion which has not, I think, occurred to the author. In his, as in other, accounts of the Platonic succession there is a puzzling shifting from the definite teaching of the early Academy to the alleged pure agnosticism of Arcesilaus and Carneades, and back again to the "dogmatism" of the still later Platonists. But I would ask whether it is so certain that the New Academy was really agnostic at all. All the anti-dogmatic reasoning of Arcesilaus and Carneades is strictly dialectical, as Mr. Hicks often points out in connexion with special arguments. What they set out to prove is not that there is no such thing as assumed knowledge, but that *on the Stoic premises* there can be no such thing. Now this would have been held as firmly by Plato himself as by any one, since he always denied that there can be ἐπιστήμη of the sensible. Hence the New Academy might have held in every respect to the positive doctrine of Plato without in any way forfeiting their right to argue that on Stoic premises "assurance" is impossible. There are two considerations which suggest to my own mind that this was actually their position. One is that the tradition of the old Academy was so well preserved. If the Academy had ever become a home of mere agnosticism it is hard to see how, *e.g.*, Plutarch could have been so admirably informed as he is on the traditional exegesis of the *Timæus*. The other is that the professed sceptics from Ænesidemus on always insisted that the New Academy did not represent the real scep-

tical position. Whatever we may think of the way in which a writer like Sextus explains the nature of the difference, the fact at least that his succession refused to admit the genuine agnosticism of the Academics has to be accounted for. I might even add that the view which *he* regards as Academic would only be possible to persons who accepted an essential Platonic doctrine. The Academic, he says, professes to *know* that "assurance" is impossible. If this is correct, the New Academy must have held at least the Platonic doctrine that there is no science of *γιγνόμενα*.

A. E. Taylor.

Consciousness. By Henry Rutgers Marshall, M.A., L.H.D. London, 1909. 8vo, pp. xv, 685. Price, 17s.

Nothing is more needed in psychology at present than careful consideration of its fundamental conceptions, and a book on the subject from Mr. Marshall's pen is sure to be widely read, despite the growing difficulty of his language. It would be no special compliment to a psychologist of Mr. Marshall's distinction to say that his book deserves close study and is full of good things. So much may be taken for granted: the important question is whether his main positions are tenable. They do not appear to me to be tenable. Readers of Mind are already more or less familiar with them, for a considerable part of this book is a reproduction of the substance of arguments which Mr. Marshall has developed in recent numbers of Mind (*e.g.* N.S., Nos. 37, 44, 57, 61), and a lengthy exposition of them here is therefore unnecessary.

Mr. Marshall remarks in his Preface that a metaphysician might object that his initial assumptions "involve metaphysical considerations," and this objection he tries to counter by the statement that metaphysical problems are concerned with "complex conceptual systems" which are "emphatic parts of my consciousness" (*i.e.* presentations) "when I turn to their consideration". Thus he regards the psychologist's problem as "more general" than the metaphysician's, and so robs of its cogency the claim which psychologists justly make, and which he makes on pp. 271-272, to be allowed to assume the existence of an objective order in the same way in which it is assumed by ordinary thought or in any other science. For that claim is admissible only if the psychologist remembers that his study is not final, but starts from metaphysical presuppositions which it is precluded from examining; yet, so far is Mr. Marshall from acknowledging this that, regarding psychology as the more general study, he actually appends to his psychological analysis a chapter of Corollaries in which he draws from it conclusions concerning responsibility, freedom, and immortality. It is not difficult to understand the impatience of some metaphysicians with psychology when a writer of Mr. Marshall's eminence can proceed in this fashion.

Nor does Mr. Marshall's analysis of consciousness seem to me at all satisfactory, and on it the whole of his doctrine depends. By consciousness he means very much what the ordinary person means by mind or spirit—"psychic existence," as he calls it. The object of the analysis is first of all to enumerate its "parts". Mr. Marshall uses spatial metaphors so freely, and with so little reflection on their metaphorical character, that the map of consciousness on page 6 quite suitably illustrates his position. In it appear two great regions of consciousness, (i.) presentations, and (ii.) the self. Presentations include (i.) "the empirical ego," and (ii.) objects. The self is the unpresented part of consciousness, *i.e.* "the field of inattention". Presentations are the "emphatic" part

of consciousness at any moment, corresponding to emphatic activities in the nervous system; but, just as Mr. Marshall assumes, the nervous system is always active to some extent in every part, so also, on the assumption of "noetic-neururgic correspondence," consciousness must be a system which includes much more than these "centres of emphasis," and the remainder, "the vast undifferentiated mass," is the self. It receives presentations and reacts upon them. Obviously it changes from moment to moment, so that there is not really *a* self, but a succession of instantaneous selves, each of which is "new and unique".

Thus thinking consists in the presentation of one "part" of consciousness to another. When I think, *e.g.*, of an "object in the outer world," the psychological account of the matter is that a "complex systematised concept" is presented to and received by the "field of inattention," and, as psychology is "more general" than metaphysics, we are left to presume that this is the last word about knowledge. Mr. Marshall does not seem to see that he has fallen back into all the old difficulties of the series that somehow knows itself, and that by laying stress only on difference he has abolished both knowledge and purpose. A doubt flashes at times across the reader's mind, whether he is not ironical—whether he is not making a covert attack upon the notion of "the stream of consciousness". Yet, as I said above, the book is in detail full of interesting and suggestive passages.

The printer has occasionally treated the author unkindly. Thus, on pages 10-11, *percepi* (three times), and, on page 94, "This is the phenomena".

T. L.

Mind and Its Disorders. A Text-book for Students and Practitioners. By W. H. B. Stoddart, M.D., F.R.C.P., Assistant Physician to Bethlem Royal Hospital. With illustrations. London: H. K. Lewis. Pp. xvi, 488.

This is one of the best text-books I have yet seen. It is well adapted to its primary purpose, namely, to "provide the student and practitioner with a succinct account of our existing knowledge of mental diseases". The exposition is divided into three clean-cut parts: first, Normal Psychology; second, the Psychology of the Insane; third, Mental Diseases. This division enables the author to set forth in sequence the general propositions of psychology, to emphasise the special features of disordered 'mentation,' and finally to fit the practical examination and treatment of the insane more or less systematically into a coherent system. The first part, it is true, is somewhat dogmatic in statement and tone; but this is an incident of the method of the book rather than a sign of a dogmatic attitude. When psychology has to be condensed into a hundred pages,—these to include intelligible indications of the most recent methods of research,—the dogmatic form is unavoidable. Fortunately, the author, unlike many other writers on insanity, has clear ideas of the limits of psychology and metaphysics. He frankly states his chief pre-supposition and goes forward: "According to the second, or 'interactionist' school (I am not sure that the designation is very convincing), 'mind' is not to be regarded as a 'thing,' but 'mentation' is to be regarded as a process, having its physical basis in the brain. This is the scientific view of the present day, which will be adopted in this manual. Incidentally, it commits us to the view that insanity is a disorder of the process of mentation and therefore directly dependent upon disease affecting the brain, either primarily or secondarily" (p. 2). And again,—"that sensation is the essential attribute, the only essential

attribute, of conscious organisms and that all the more complex mental functions are derivable therefrom" (p. 7). The psychological sketch is conducted from these standpoints and the result is clear and distinct. It opens out the lines of further study without confusion. The second part, the psychology of the insane, follows the same general course, but with less elaboration. The third part is fuller and covers all the ordinary ground of modern diagnosis and treatment of mental diseases. There are several good illustrations. If the book has a fault, even from its own standpoint, it is that too many authors are mentioned without specific references to their books or articles. Doubtless, in a text-book such as this, space is very limited; but the practical value of the book would be immensely improved either by a good selection of references at the end of the chapters, or by indications in the text. In one matter, the author seems to me to carry the dogmatic method of exposition to the danger point, namely, where he says: "The pith of the whole matter is this: that among savage peoples the interests of the individual are subordinated to those of the race and natural selection is at work; while among civilised nations the interests of the race are subordinated to those of the individual, natural selection is allowed no play, and the result is the *survival of the unfittest*. This is the true cause of the increase of insanity; it lies under our very hands. The medical man is himself responsible for the increase of disease and the degeneration of the race. The physician who specialises in mental diseases is, or should be, a comfort and a blessing to his present patients, but he is a curse to posterity" (p. 163). This is a rather strong statement to be flung down without analysis. It seems to me unsound in its idea of natural selection and doubtful in its alleged facts. The author has got among dangerous abstractions, selection and survival, which are no more satisfying when issued without capital letters in the name of science than they were when issued as Election and Effectual Calling *with* capitals in the name of ancient theologies. His own book has materials enough for a strong case against both his assumed premises and his somewhat figurative conclusion. Those abstractions are too summary for problems so complex.

W. L. M.

Examination of Prof. William James's Psychology. By Ikbal Kishen Shargha. Allahabad: Ram Narain Lal, 1909. Pp. 118. Price, one rupee.

In this little work, Prof. Shargha, who represents philosophy at Bareilly College, subjects James's psychological views to a searching criticism. In its form the book is a running series of quotations of statements regarding the following topics: brain and consciousness, externality of sensations, indivisibility of sensations and other states of consciousness, the self as known, the self as knower, conception, emotion and will. The criticism of these passages and their summary in each chapter go to show mainly that James is either inconsistent or arrives at results which are untenable. James's large work is still of course a favourite with all psychologists. Its friends continually increase in number. Even our so systematic cousins of the Continent have recently shown their devotion by translating it. But systematic criticism of it brings almost the same shock of surprise and regret as would the too close examination of the weather of one's homeland or of a wayward friend. We live not for their evil days, but for their brilliant, radiant hours. But, perhaps, just because James's psychology is so vital and attractive, it might be thought that its

hold on life lay in its philosophic build and not in the details of its structure, many of which are long outworn. Beginners especially might be prone to this belief. These and others interested mainly in the framing of large systematic hypotheses, Shargha's book is specially devised to enlighten.

The criticism of James's views on the relation between brain and consciousness may be passed without comment, as partially contradicting statements are more a matter of style of treatment and exposition than of system, where a progressive science like psychology has to be treated. Shargha rather overlooks the fact that a wide hypothesis regarding facts can hardly be final, but must be moulded from time to time to bind together the facts as they are gathered. From another point of view the same may be said regarding the chapter on the indivisibility of sensations and other states of consciousness. There are strong motives which urge us to maintain that some states of mind are compounded out of others, as many psychologists maintain, and others, equally strong, which force us to deny this. He who holds these opposing views in balance, even under the charge of inconsistency, may often do more to keep the facts alive than the most consistent apostle of the one side. The longest chapter deals, as one might have expected, with the self as knower. James's line of informative inconsistency gives place to a faith in one abiding substance underlying all modes of thought. "If the meaning of 'change' can be realised, we cannot be wholly ignorant of *that* which undergoes a change. The permanence and identity of the substance of mind must of course be largely a matter of faith. . . . The inmost nature of the self must remain a dark mystery, but from that it does not follow that it is absolutely unknown" (p. 59). The psychology of the concept, finally, is at the present time altogether too changeable and imperfect to withstand the charge of inconsistency.

"Most of the errors and much of the confusion which we find in his psychology are due to his inability to make up his mind as to the relation between brain and consciousness. . . . Prof. James consciously or unconsciously leans to the materialistic theory that the body is after all the real thing and that consciousness is a 'supernumerary phenomenon,' that neural changes are invariably the causes of mental states and are in no way affected by them" (p. 110). "And yet, unless we are very much mistaken, Prof. James is *not* a materialist. He has only adopted the materialistic hypothesis as a tentative method" (p. 116).

Prof. Shargha's criticism is clear and trenchant, and taken in conjunction with a thorough study of the originals by the general student beginning the study of psychology will doubtless help towards clear progress in the broadest problems of mind and so fulfil the purpose for which it is intended.

H. J. Watt.

The Ethics of St. Paul. By Archibald B. D. Alexander, M.A. Glasgow: James Maclehose & Sons, 1910. Pp. xxiv, 377.

"The special aim of this volume," we are told in the Preface, is "to present in a systematic whole the various virtues and duties which the apostle inculcates," and its central thought is, "that morality is absolutely vital to St. Paul's religion". Even if the dearth of special works on the Pauline Ethics were as great as Mr. Alexander supposes, the different aspects of the subject have been treated time and again by writers on St. Paul and on Christian Ethics. And if it were possible to say anything fresh on the matter, our author has not said it. But the book has the merit of being a careful, well-informed and fairly complete

statement, and the writer lays proper stress on the spiritual experience which determined the apostle's life and teaching. Mr. Alexander's standpoint is in the main conservative. He accepts as genuine all the writings traditionally attributed to St. Paul, although, as he must know, there are good reasons for doubting the authenticity of the Pastoral Epistles. The book is divided into three sections: Sources and Postulates; Ideals and Principles; Duties and Spheres. The first section deals with the influences which shaped Paul's teaching, and it also treats of his Psychology. In the second part Mr. Alexander finds the characteristics of Paul's ethical ideal to be its Absoluteness, Inwardness, Symmetry, and Universality. A good chapter on the "Dynamics of the New Life" follows. But in signalising the defect of Greek Ethics in this regard, Mr. Alexander surely forgets the theory of ἀρετή in the *Republic* when he speaks of Plato's conception of virtue as "spiritual æsthetics, the contemplation of the morally beautiful". In his third section the author discusses the Pauline doctrine of Duties: Duties to self and to others, Duties in relation to the family, the State, and the Church. The final chapter on "The Ethical Ultimate of St. Paul" sums up the conclusions of the book. "This unity in diversity, this fearless recognition of the antinomies of life and thought, and the attempt, not to suppress but to combine them in a higher synthesis, is acknowledged by every student of St. Paul's philosophy of life" (p. 363).

Detailed criticism is not possible here, but Mr. Alexander seems to us too anxious to find the Pauline teaching coherent and systematic. For instance, he thinks those passages where Paul speaks of the flesh as naturally sinful, must be construed so as to be consistent with the Pauline idea of redemption. Similarly, the ascetic element in the apostle's temper, which comes out in his views of marriage, hardly receives due recognition. Again, though the writer knows the apostle's mind was greatly influenced by the thought of a speedy Second Coming, he allows the fact to remain very much in the background. The result is that Paul's interest in the state and political society is exaggerated. Only when we remember his eschatological outlook do we realise how it was possible for the large-minded Apostle to the Gentiles to regard the external organisation of society, and even the institution of slavery, as among things indifferent.

G. G.

The Mental Symptoms of Brain Disease. By Bernard Hollander, M.D., with Preface by Dr. Jul. Morel, late Belgian State Commissioner in Lunacy. London: Rebman, Limited, 1910. Pp. xviii, 237.

As what it professes to be, namely, "an aid to the surgical treatment of insanity, due to injury, hæmorrhage, tumours, and other circumscribed lesions of the brain," this book will be of great service. It brings together, from a very wide field of reading, several series of cases classified and discussed in relation both to their mental symptoms and to the brain lesions discovered in association with these. As a reference book, therefore, every student of cerebral surgery will welcome this scientific summary of results up-to-date. On the more general question, the relation of mind and brain as a whole, there is not much that is new, although the theory of localisation gains greatly in precision from the study of the individual instances. It is, however, a pity that, on the very first page, we should have somewhat crude observations like this: "True, no one would agree to-day with Sir William Hamilton and John Stuart Mill, who still taught that 'mental phenomena do not admit of being deduced from the physiological laws of our nervous organisation,' but it seems that the

influence of antiquated metaphysics based on the results of self-introspection has not yet worn off entirely. For mind is still regarded by some as if it consisted of intellect alone, whereas we all *feel*, as well as think, with our brains" (p. 1). It is not worth while in a short notice to analyse out the curious mixture of ideas here offered us as if it were really the latest thing in psychology, but I give the quotation as an indication of the extraordinary tendency of works like these to start with metaphysical tags that have little or no relevance to their special work. When, however, Dr. Hollander passes to his real text, the localisation of brain functions and the mental symptoms of definite cerebral lesions, he has much that is relevant and important to say. A very large number of references are given in the text, and these will be of the utmost practical value; but here and there one finds names of authors without any note of the specific work or page, and occasionally sentences like this: "F. Bevan Lewis, Clarke, Nissl, Bolton, Cajal, Campbell, Vogt, Mott, Brodman have done most praiseworthy work in this direction" (p. 13). But where the references are so numerous and the mass of collected cases so great, it is ungracious to find fault with minor omissions or unrelated Homeric lists of names. The book covers discussions on the mental symptoms of lesions of the frontal lobes, the parietal lobes, the temporal lobes, the occipital lobes, the functions of the cerebellum, the skulls of the insane and the operative treatment of insanity. The reader of MIND will find much to interest him and to show him how much remains to be done before the functions of the brain can emerge into system or the "antiquated metaphysics" due to "self-introspection" come to its own. We may leave it to the Experimental Psychologists to say how much truth there is in the statement: "We are disposed to think that exaggerated notions are entertained as to what experimental psychology can actually accomplish. It is practically restricted to the measurement of sensations and movements and the gaps between them, and of the simplest mental processes" (p. 5). The implication that "sensations" and "movements" are not "mental processes" may be left to the metaphysicians or general psychologists, either of whom, I imagine, will be able to understand what the writer means in spite of his language. The book is well produced.

W. L. M.

The Power of Concentration. By EUSTACE MILES, M.A. London: Methuen & Co. Pp. xv, 196.

In this book Mr. Eustace Miles, with the selective skill of a trained teacher, brings into a small compass a large number of most valuable directions for the practice of life. He not only writes the book, but indicates to us how we should study it so that the study shall itself be a training in concentration. It is here impossible without disproportion either to summarise the many elaborate and justified instructions or to analyze critically their foundations. It is enough to say that, from the experience of himself and others, Mr. Miles is able to put his reader in the way of progressive education towards concentration. He emphasises the duty of putting "first" things first, since "ideal concentration" helps, and does not hinder, proximate concentrations. "The true physical parent or grandparent of ideal Concentration is proper breathing and a relaxing of the muscles from all unnecessary effort. This is against the popular notion of Concentration, which assumes that a man is not concentrating unless he is *showing* great effort and strain. It is maintained that the true son and successor of ideal Concentration is delegation, together with occasional supervision . . . that concentration is not an end, but only a means to an end—namely, liberty to attend more closely to the

highest things in life, because the lower things are handed to our servants within us" (p. xiii). The whole exposition is lucid and relevant, so lucid, indeed, that one is apt to forget how difficult of attainment such lucidity in practical instruction is. The book is a sound addition to the handbooks of personal discipline.

W. L. M.

Mentally Deficient Children: Their Treatment and Training. By G. E. Shuttleworth, B.A., M.D., etc., and W. A. Potts, B.A., M.D., etc. Third Edition. London: H. K. Lewis, 1910. Pp. xviii, 236.

Of this volume all that need be said is that it is the third edition of an excellent first. Dr. Shuttleworth, after many years' experience, had, among our earliest workers in this field, set forth in a systematic way his methods of dealing with "mentally defective" children. In the present edition much has been added both to text and illustration. In the interval between the second edition and the third the Commission on the Care and Control of the Feeble Minded conducted its very extended investigations into the nature and prevalence of "feeble-mindedness". This edition takes full account of the latest work. It is, therefore, an admirable hand-book to this whole department of treatment and education. There is a good bibliography, a good index of subjects and an index of names. As the point of view is essentially practical, the theoretical questions of the segregation or preservation of the so-called "unfit" and the related ethical questions are merely touched upon.

W. L. M.

Les Névroses. Par Dr. Pierre Janet, Professeur de Psychologie au Collège de France. Paris: Ernest Flammarion, Editeur, Bibliothèque de Philosophie Scientifique. Pp. 397.

This well-filled volume of 400 pages contains a generalised statement, with adequate detail, of Dr. Pierre Janet's well-known researches and theories. As he points out in the Introduction, in the last twenty years he has published large volumes of special studies on the neuroses, giving psychological and physiological details of some 500 cases. Naturally, these masses of observations have organised themselves around certain general hypotheses, which it was eminently desirable to bring together. The book is divided into two main parts. The First Part deals with neuropathic symptoms, including fixed ideas and obsessions, the amnesias and doubts, language troubles, choreas and tics, paralyses and phobias, troubles of perception, troubles of the instincts and visceral functions, such as troubles of sleep, nutrition, respiration, etc. All through this exposition of symptoms, a distinction is made between hysteria and psychasthenia. The Second Part expounds the neuropathic states, including nervous crises, neuropathic stigmata, the mental state in hysteria, the mental state in psychasthenia. The final chapter is devoted to the question: What is a neurosis? It is needless here to re-expound Janet's doctrines. After a full exposition of symptoms, hysteria and psychasthenia as states have a chapter each. Dr. Janet lays great stress on the difference between the two states. "Hysteria is above all a disease of the personality. . . . It is a form of mental depression characterised by a contraction of the field of personal consciousness and by a tendency to dissociation and to the setting loose of the systems of ideas and functions that, by their synthesis, constitute the personality" (p.

345). Psychasthenia, on the other hand, is a "form of mental depression, characterised by the lowering of mental tension, by the impairment of the functions concerned with reality and the perception of the real, by the substitution of operations lower in the functional hierarchy and exaggerated in the form of doubts, agitations, anxieties and obsessional ideas, which express those troubles and which themselves present the same characters" (p. 367). It is obvious that psychasthenic features may appear in hysterical cases. Both hysteria and psychasthenia are neuroses. "The neuroses are disturbances of the different functions of the organism and are characterised by arrest of development without deterioration of the function itself" (p. 392). The minute psychological analyses so familiar in his writings, Dr. Janet regards as an indispensable preliminary to any successful system of psycho-therapeutics, which he hopes to take up in a subsequent volume. From this brief summary, it is obvious that the small volume forms an admirable introduction to this immense and ever-widening field of study.

W. L. M.

Die hermeneutische Induktion in der Talmudischen Litteratur: ein Beitrag zur Geschichte der Logik. Von Prof. Dr. Adolf Schwarz. Wien und Leipzig: Alfred Hölder, 1909. Pp. 256. Price 7·40 marks.

Although this work is called "A Contribution to the History of Logic," it is evidently intended for that rare type of logician who is fully at home in the Jewish Oral Law; for Dr. Schwarz's pages contain untranslated extracts from the Talmudim and Midrashim, which only a limited number even of Hebraists could construe with ease. On this subject indeed he writes as a master; and those who can follow him will be grateful for his elaborate analysis of the exegetical methods to which this book is devoted. Being expedients for the interpretation of the Mosaic Law, they belong rather to the discipline called by the Arabs "Principles of Jurisprudence" than to Logic; and it seems doubtful whether any useful purpose is served by attiring them in the ill-fitting terminology of the Aristotelian *Organon*. Dr. Schwarz indeed tells his reader somewhat peremptorily that he had better attend lectures on Logic if he cannot see that a certain form of argument in the Mishnah is a "Spezies-Induktionsschluss" in the spirit of Aristotle; examples are the following: in Deuteronomy xxii. 1-3 the finder of lost property is told to restore it, the objects enumerated being an ox, an ass, a garment, and any lost object. Granting that live stock deserves special mention, the Mishnah asks why is not a garment included in "any lost object"; and replies that it is to indicate that by "lost object" the legislator meant "object capable of identification and so of being claimed". In Exodus xxi. there is a rule about pits, making the digger responsible for the loss of any animal that falls in and is killed; the Mishnah makes the term "pit" cover any form of excavation. Now is the term Induction really suitable for processes of this sort? According to Sigwart's *Logic* (a manual to which Dr. Schwarz often refers) the reply would seem to be in the negative. "In the logic of Jurisprudence the process of disengaging the legal principle from some special determination of which it is the ground is known as analogy" (trans. Dendy, ii. p. 209); the second of the above examples (inferring from a pit to caves, etc.) would seem to come under this head. The first example is far less easy to label, because it appears to be a thoroughly inconclusive argument. A garment, unless it happened to be marked, might be as difficult of identification as a coin; a coin, if it happened to be chipped, might be as easy of identification as a marked garment. The legislator might have added "any lost object" in

order to include such as did not admit of identification—if there be any, strictly speaking. The lecture on Logic which would show that this reasoning was in the spirit of Aristotle ought not to have been withheld by the writer.

Fortunately the value of his book by no means depends on the appropriateness of his nomenclature. The endeavour to reconstruct the historic development of the Rabbinic exegesis seems to be both praiseworthy and successful; though the proof of his assertion that the commencement of it goes back beyond the time of Ezra, whence Ezra cannot have been the Editor of the Pentateuch, does not appear to be given. To the Biblical critic the historical character of Ezra is at the least doubtful; nor can he look to obtain any exact knowledge from a mass of tradition not written down till at least a millennium after the supposed Ezra's death, and found to be inaccurate whenever it can be checked.

D. S. Margoliouth.

Francis Bacon und seine Quellen. Erster Band: *Bacon und die griechische Philosophie.* Von Emil Wolff, Dr. Phil. (Literarhistorische Forschungen, hsg. v. J. Schick und M. Frh. v. Waldberg, XL.) Berlin, 1910. 8vo, pp. xxx, 301. Price, M.10.

This is the first part of a "gekrönte Preisschrift" from the University of Munich, and, though it appears in a series which is for the most part devoted to the history of literature rather than philosophy, it deserves notice in the pages of Mind. It is primarily a study of the references to Greek philosophers that are scattered through Bacon's works, and, taken as that and nothing more, it appears to be (so far as I have had opportunity to test it) both accurate and complete. The connexions established through some common origin between phrases in Bacon's philosophical treatises and phrases in his other works are often interesting and enlightening, as also are the author's occasional deviations into Kepler, Galileo and Montaigne. I would complain only that Dr. Wolff has not divided up his three very long chapters into sections in accordance with his Table of Contents: as it is, a new paragraph at one time means only a slight change of topic, at another a jump from one Platonic dialogue to another, or even from Epicurus to the Pythagoreans, so that the reader is often confused and disconcerted.

But the author evidently intends his book to be, in the second place, a disquisition on the relation of Bacon's thought to that of Greece, and thus regarded it is less satisfactory. It displays a large acquaintance with the writings of Greek philosophers, but not an equal understanding of their philosophy. In his view of Plato and Aristotle, in particular, Dr. Wolff seems to have been unduly influenced by Grote, though he does in one place (p. 170) indicate his disagreement with a passage from Grote which he quite unnecessarily cites. Moreover he frequently makes statements which must seriously mislead readers who have not specially studied the history of philosophy, though in view of the nature of the series in which the book appears he ought to have been more than usually careful. Examples are, the use of 'subjective' in reference to the concept of causality (p. 168) and to the Aristotelian ἀρχαί (p. 170), the exaggerated statement that Bacon's method is in the end the same as Plato's (p. 143), the false antithesis between the logic of scientific method desiderated by Bacon as presupposing the existence of empirical science and Aristotle's logic as "entirely independent of all external experience" (p. 232).

Considering the number of languages used in it I find the book singularly free from misprints. It is to be hoped that at the end of the next

volume Dr. Wolff will give a table of the passages in Bacon which he has referred to their sources and of these originals themselves.

T. L.

I Maximi Problemi. Bernadino Varisco. Libreria Editrice Milanese. Milan, 1910. Pp. xi, 331.

If I do not propose to review Prof. Varisco's work at any great length the reason is that I am so convinced of its importance that I should despair of doing justice to it in any notice which did not run to the length of an elaborate critical article. It is a long time since I have had the good fortune to meet with a work in which the really vital issues of Philosophy are discussed with so much knowledge, sound judgment, and, to my mind, with so much originality. I would especially commend both the tone of moral elevation which breathes from the author's pages, and the admirably philosophical method which he has adopted. The present work is one of those very rare ones which genuinely realise the Platonic conception of dialectic, that it should be the "discourse of the soul with itself". Where the average writer on Philosophy thinks of little more than successful silencing of opponents from some camp whose flag is not his own, Prof. Varisco devotes little space to formal controversy; like Socrates, he allows us to share the inner dialectical development of his own thought as he makes his way from simple and every-day assumptions by the process of self-criticism to a position which leaves him prepared for the crowning task of the identification of the "good". This dialectical procedure, together with the author's devotion to a pregnant and compressed style, makes his book, as he himself confesses, hard reading, but, as he himself also says, it is no part of the business of Philosophy to be easy, and I can assure any reader who thinks fit to study the volume before us on my recommendation, that he will find the time spent in following it to its conclusion most profitably employed.

The "chief problems" with which the book deals are those which are involved in the choice between what seem to be the two ultimate attitudes towards the Universe possible to the contemporary European mind, the attitude of Positivism and that which may be roughly said to be the attitude of Christianity. We are gradually led on, by a process of unremitting self-criticism, from the postulates tacitly implied in our every-day theoretical and practical assumptions about reality to a philosophical theory which, to the British reader, will recall the doctrine of T. H. Green, but we are not allowed to stop there. Like Green, the author sets himself to show, and with greater definiteness of thought than Green ever attained, that the very possibility of conscious reflection on experience and its development into science presupposes that there is an objective reason which is numerically one and the same in all persons and in the world outside them. But, unlike Green, he is not dominated by intellectualistic prepossessions, and so is able to hold equally fast to the conviction that the individual personality which forms the supreme "value" for Ethics, must also for Metaphysics be no less real than the "One". The relation between them, whatever it may be, is not, and cannot be that of "appearance" to "reality". Hence the metaphysical view to which we are finally conducted is a Monadism closely resembling that of Leibniz. But it is a Monadism purged, and, as far as I can judge, successfully purged, of the worst features of Leibniz's doctrine, the absence of real interaction between the Monads, the Pre-established Harmony, and the rigid Determinism. Even in the purely physical world (which is conceived of as consisting of psychical elements not united together in the peculiar way in which our percepts and our purely "private" ex-

periences, our feelings and activities, are held together in a single "unity of consciousness") there must be sequences which are not completely determined, and genuine fresh beginnings, unless every phase of the Universe is to be indistinguishable from every other. The actual course of events cannot be simply determined once for all by the laws of relation subsisting among the various monads; the spontaneity inherent in the individual monad must be taken into account as a factor which may in contradistinction to the causal laws of reciprocal action between the monads, be called a-logical, but must *not* be called irrational, since the really irrational assumption would be the denial of spontaneity.

The author's treatment of this part of his topic calls for special commendation. It is all the more masterly from his entire avoidance of the rhetorical appeals to feeling with which the case for partial Indeterminism is commonly argued, and from his thorough familiarity with mathematical Physics. So far, however, we have not reached the "greatest problem" of all, the choice between belief in a purely immanent "reason in the world," without the individual permanence of the persons in whom it reaches its fullest expression as known to us, and belief in a Reason which is transcendent as well as immanent, with the permanence of personalities, *i.e.* in the Christian conception of a personal God as the source of the Universe. Followers of Dr. McTaggart should be interested by the careful argument advanced to show that the apparent third alternative, immortal personalities without an absolutely supreme personal God, is excluded. The main point is this. The arguments which lead us to assert the presence of rationality as immanent in the Universe justify us in holding that the action of every individual in it, from the "bare monad" up to the rational person, are throughout teleological. But they do not justify the belief that the Universe as a whole is a being with an end to be realised. They leave open the possibility that it is not, and in that case, the history of the Universe, if we may call it a history, might present a mere unending kaleidoscopic reshuffling of its elements, in the course of which the "bare" monads might repeatedly go through the processes of evolution into personality and reinvolution to the state of mere monads, but there would be a complete discontinuity between the personal lives of a monad in its successive periods of "evolution". Continuity—in other words, immortality—can only be guaranteed if we have a right to regard the whole course of the Universe as having for its supreme law the teleological principle of the conservation of values. In the author's words: "Absolute continuity of development, the permanence of values, cannot be preserved if the concretes are the sole determinations of Being, if the potential value of Being only becomes actual in single persons, which, in that case, being subject to the chains (external to each of them) of a necessary and therefore non-teleological causality, can only be transitory. To secure the permanence of values we need to admit that causal necessity is subordinate to intentional finality, *i.e.* that Being is endowed with further determinations than the concretes, and produces the concretes within itself, not from the necessity of determining itself, but to secure an end, to realise a pre-established design. In that case, the notion of Being is transformed into the traditional notion of God."

In the present work the issue thus expressed is allowed to remain undecided. The writer contents himself with an able vindication of the position that no decision can be given unless the practical reason is allowed a hearing. We have to remember that the cheap Positivist solution by appeal to the "immortality of the race" is nugatory, since without the principle of the permanence of values we have no right to believe in any such thing, and with the principle we are justified in believing in

the preservation of the individual personality. On this alternative we have a duty and a right to ask the verdict only of the man who is, in the Gospel phrase, *ex veritate*, that is, the man who is "pure of heart," who "desires only that which is desirable *in se*," who "regards and feels as good, as value, that which is good, is value, *in se*". For himself the writer is content to say, "I believe in the permanence of values. But I naturally cannot give as an argument this personal conviction of my own, strong as it is, and justified as it seems to me to be."

A further volume is promised in which the historical affinities of Prof. Varisco's doctrine to the leading philosophies of the past are to be fully treated. If it is anything like as good as the present work, it is to be hoped that its appearance will not be long delayed, and that both books may soon find competent translators into English.

A. E. Taylor.

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VIII.—PHILOSOPHICAL PERIODICALS.

Philosophical Review. Vol. xix., No. 3. **H. S. Shelton.** 'Spencer's Formula of Evolution.' [Spencer's formula of evolution, and his principle of the persistence of force, are purely physical, and their truth or falsehood is wholly independent of metaphysics. Under the persistence of force, Spencer comprises, with modifications, the two comprehensive generalisations of the conservation of energy and the indestructibility of matter. His evolutionary formula must be accepted as true : its inductive verification, contained in the whole of his philosophy, is overwhelming ; the latter deductive proof is also, in the main, a piece of sound reasoning. Its practical value is less than that of the great physical generalisations, simply because it is a qualitative and not a quantitative formula ; but even so it has proved of service in psychology, sociology, and biology, where the conditions are so complex that the other principles give us little help. It is not disproved or discredited by any of Ward's criticisms.] **J. Lindsay.** 'The Philosophy of Schelling.' [Exposition, with running commentary, of the main positions of Schelling's system ; distinction of three periods : the Spinozistic, when Schelling is occupied with the problem of God ; the period of philosophy of nature ; the period of interest in transcendental idealism.] **E. G. Spaulding.** 'The Logical Structure of Self-refuting Systems. I. Phenomenalism.' [Continuation of paper on the postulates of a self-critical epistemology, in vol. xviii. Criticism of the internal view of relations. Generic phenomenalism insists that modification is necessarily involved in the knowing process, and that, by virtue of a certain characteristic of knowing, we can never know what reality would be like as not-known or as thing-in-itself. It is self-refuting, since it presupposes the internal view of relations and the method of enumeration as applied to the infinite regress. With the original phenomenalism (Kant) fall also subjective idealism (Berkeley), transcendental idealism and ontological absolutism (Fichte, Hegel), and ontological voluntarism (Schopenhauer, Nietzsche) ; three remains the self-confirming and self-critical system of evolutionary realism.] **W. E. Hocking.** 'How Ideas Reach Reality.' [Idealism rightly declares that the original and naïve attitude of the mind to its objects requires to be interpreted. But the distinction between what I am and what I think is persistent for finite subjects ; sensation, for instance, is a point of vital contact with an independent reality ; and there are also ideas and feeling of this reality. Mind has its principles of experiment, the ideas of cause, substance and the like, which are not subject to correction and error as are its common predicates ; the existence of the independent object is, in fact, the most general subject-matter capable of ontological proof ; real objects are independent in whatever sense we can imagine or think or inquire about or deny their independence. We are thus led back to Spinoza's definition of substance, not because logic controls nature, but because logic is nature, the only form in which nature can now be approached by human consciousness.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes.

Psychological Review. Vol. xvii., No. 3. **K. Dunlap.** 'The Complication Experiment and Related Phenomena.' [Experiments with

Burrow's apparatus, to which was added a closely apposed screen of white mosquito-netting, for the purpose of steadying fixation. . . . There are three ways of judging the position of a moving pointer, at the moment of occurrence of a discrete stimulus. The eye may follow the pointer; in this case the errors are positive. The eye may, at the critical moment, be practically at rest; under these conditions, the errors are small, and indifferently distributed. The eye may not be obviously following the pointer, and yet the image of the pointer is not blurred (as with the resting eye), but tolerably distinct; this, the method of natural fixation or of rhythmic reaction, gives errors which depend on the retardation or anticipation of the 'reaction' (eye-movement?) whereby the clear image is secured; it is the method of judgment in all the classical work, from Wundt to Burrow. In the complication experiment, there is no illusion of time displacement: the displacement is real, and the fallacious perception is of simultaneity; simultaneous stimuli normally arouse subjectively simultaneous sensations (unless marked differences of duration are involved), and successive stimuli to different modalities are apt to be perceived as simultaneous even when there is a considerable interval between them. The interpretation in terms of attention is wrong.] **A. S. Ford.** 'The Pendular Whip-lash Illusion.' [Renewed study of Dodge's well-known illusion shows that the result depends, according to conditions, upon one of all of three factors: the fading of after-image streaks at their older ends; the fact that the limen of movement, as perceived by means of displacement of the retinal image, is lower than the limen as perceived by movements of the eyes; and the law of prior entry to consciousness of the stimulus which receives attention.] **J. E. Downey.** 'Judgments on the Sex of Handwriting.' [Repetition of Binet's test. Judgments by thirteen unpractised observers show that sex may be determined from handwriting in perhaps eighty out of one hundred cases. The presence or absence of sex signs, in the writing of a particular person, depends upon the amount of writing done; upon age, and, therefore, to a certain extent, upon practice; and upon professional requirements (conventional hand of teachers, rapid hand of bookkeepers). The observers show great individual difference, both in the rapidity with which they reached their conclusions, and in the degree of confidence with which they recorded their judgments. Pressure of social opinion (here leading to a constant error) is apparent in the tendency to ascribe originality to man's, conventionality to woman's handwriting.] **M. L. Billings** and **J. F. Shepard.** 'The Change of Heart Rate with Attention.' [*Breathing*, in visual attention, is decreased in amplitude, without regular change of rate; in auditory attention, is decreased in rate, without regular change of amplitude: these changes are adaptive, as deep breathing would interfere with looking, rapid breathing with hearing. In central attention (mental stimuli) there is very little change of any sort. *Heart rate* tends to increase with effort of attention; it increases also with increase of rate or amplitude of breathing, decreases with restricted breathing. This physiological dependency explains the decrease of heart rate often observed, especially at first, in sensory attention; central attention regularly increases heart rate. *Pulse* increases in amplitude with restricted breathing and decreased heart rate, and conversely; the change of heart rate seems to be the more important influence; its increase may decrease pulse, in spite of retarded breathing.]

American Journal of Psychology. Vol. xxi., No. 3. The first four articles of this number are the addresses delivered by invited American guests at the Celebration of the Vicennial of Clark University, September, 1909. **H. S. Jennings.** 'Diverse Ideals and Divergent

Conclusions in the Study of Behaviour in Lower Organisms.' [Modern biology desires to see the processes of nature occurring, and to control and modify them as they occur. This desire has led to two methods of attacking the problems of behaviour in lower organisms: the synthetic method, which takes as its unit of work, or object of investigation, some physico-chemical principle or agent, and then subjects the organism to the operation of this agent; and the analytical, which takes as its unit of work the total organism—first watching the organism in its natural environment, with the aim of discovering all that it does; and then varying the environment, to see what difference this change makes in the behaviour. Workers by the second (and preferable) method are often charged with vitalism, anthropomorphism and finalism. But (1) recognition that arrangement of material, rather than material itself, is the essential point in determining behaviour does not necessarily make one a vitalist; it merely expresses the conviction that the problem is more complex than the orthodox physico-chemists have supposed. (2) There are, in fact, many fundamental resemblances, along with many differences, between the behaviour of even the lowest organisms and of man. To recognise these resemblances is to set a problem to physico-chemistry, not to deny the possibility of physico-chemical explanation. (3) We find again, in fact, certain marked relations between a present process and something that comes into being later—teleological relations, regulatory features of behaviour. To ignore these things is foolish; they form precisely the most difficult and the most complex problem for causal explanation; fortunately, we have the hope of a key to them in the observable formation of habits.] **F. Boas.** 'Psychological Problems in Anthropology.' [Anthropology is interested in three great psychological problems: that of hereditary racial differences in mental equipment, that of the mental characteristics of social groups irrespective of racial descent, and that of the psychological laws which govern man as an individual member of society. Taking up the third problem, the writer insists that we cannot argue from outward similarities of ethnic phenomena to community of psychological traits, but we must search for similarities of the psychological processes themselves, so far as these can be observed or inferred. This thesis is illustrated (1) by reference to primitive man's classification of concepts: fundamental linguistic ideas, religious notions, the categories of object and attribute, the setting off of incest-groups. We must know the basal categories under which phenomena are classified by man in various stages of culture; we shall probably find that their origin is not rational, but unconscious. (2) The typical associations of ideas must be studied, as they appear, *e.g.*, in the nature myth, in decorative symbolism, in totemism. (3) There is a significant resistance to the change of automatic actions (table manners, modesty and immodesty, the taboo); the customary act is the ethical act. In all these cases conscious motive is often absent; man finds himself thinking and acting thus and so, and thereafter invents secondary explanations of his thought and conduct. The promising line of research is the tracing of diverse objective phenomena to similar psychical processes.] **A. Meyer.** 'The Dynamic Interpretation of Dementia Præcox.' [The writer begins by outlining a number of cases, which are to form the basis of his discussion. He then criticises, as empirical, formal and dogmatic, Kræpelin's view of dementia præcox as a disorder of autointoxication, involving a special (assumed) brain disorder. Instead of starting from general paralysis as the paradigm of psychiatry, we must start from the paradigm of the complete action, as a function which is progressively disorganised by subterfuges and substitutions, at first harmless, later harmful and uncontrollable; we must note defects of balance, special tendencies and habitual ways of bungling; we must

define the responsible factors, so far as possible, in terms of the untimely evocation of instincts and cravings, and ensuing habit-conflicts, with their effects on the sum-total of mental metabolism, on actual conduct, on the capacity of self-regulation in emergencies; we must be on the watch for the Freudian complexes. This dynamic view leads the physician to the demonstrable facts of the case; affords such prognosis as the nature of the disorder in general permits; suggests the reasonable course of treatment; heads off misleading anatomical analogies; and brings to the common denominator of experience the abstract teachings of psychology and philosophy.] **E. B. Titchener.** 'The Past Decade in Experimental Psychology.' [After paying a brief tribute to Ebbinghaus, and calling attention to the tendency of recent psychology towards application, the paper refers to the revival of Fechnerian psychophysics, the development of experimental method in the domain of feeling, the progress towards a psychology of attention, the treatment of perception and idea by the Austrian school, and the new experimental departures in the fields of memory, action and thought; it concludes with a defence of the analytical procedure in psychology.] **C. W. Perky.** 'An Experimental Study of Imagination.' [(1) The image of imagination is closely akin to perception. A distinctly supraliminal visual perception may, under suitable conditions, be mistaken for and incorporated into an image of imagination, without any suspicion on the observer's part that an external stimulus is present. (2) Memory involves eye-movement and general kinæsthesis; its images are scrappy and filmy, and give no after-images; its mood is that of familiarity, pleasant; it implies imitative movements and the correlated organic sensations. Imagination involves steady fixation and general tension; its images are substantial, complete, and at times give after-images: its mood is that of strangeness, unpleasant; it implies organic and kinæsthetic empathy. Memory images rise more slowly, are more changeable in course, and last less long than images of imagination; memory implies roving attention and a mass of associative material, imagination concentrated and quasi-hypnotic attention with inhibition of associations.] **W. H. Winch.** 'Colour Names of English School Children.' [The order in which the names are acquired, when the child has equal opportunities of learning them and of connecting them with the appropriate colours, is Bk-W; R; B; G; Y; V; O. This agrees with the German order (Meumann), but not with the Italian (Garbini). Possibly colour-sensation is at first unitary, and differentiates in the order given.] **E. L. Thorndike.** 'Practice in the Case of Addition.' [Some 2500 additions by educated adults increase the general efficiency in adding by 33 per cent.; here is evidence of plasticity, and also of the predominant effect of specific training upon an intellectual function. Practice has a somewhat levelling effect.] **E. L. Thorndike.** 'The Relation between Memory for Words and Memory for Numbers, and the Relation between Memory over Short and Memory over Long Intervals.' [Under the special conditions, change from words to numbers reduced the correlation from 1 to §; the relation between retention for 1-2 min. and retention for 1-2 days (correlation about ·9) is one of the closest yet measured in human nature.] **L. R. Geissler.** 'Professor Wirth on the Experimental Analysis of Consciousness.' [Abstract and review of *Die experimentelle Analyse der Bewusstseinsphänomene.*] Psychological Literature. Book Notes. Correction.

Journal of Philosophy, Psychology and Scientific Methods. vii., 16. **B. C. Ewer.** 'The Tenth Annual Meeting of the Western Philosophical Association.' **I. King.** 'The Problem and Content of Educational Psychology.' [Its fundamental axiom is found to be "that an educa-

tive process essentially is one involving growth," and it begins by studying activity or impulse; after that the social atmosphere and problem-solving are considered.] **H. Walker.** 'Record of an Experience while under the Influence of Ether.' **B. Bosanquet.** 'Cause and Ground.' [Reply to Shelton in vii., 10. 'The same cause the same effect' is strictly impossible, because there are no repeatable events; and even tautologies may be very valuable. Cause and effect are arbitrary distinctions.]—vii., 17. **E. B. McGilvary.** 'Huxley's Epiphenomenalism, a Criticism and an Appreciation.' [Argues that "if epiphenomenalism is interpreted as the physical irrelevance of psychical phenomena" it may be reconciled with "a causal order which is acknowledged by every sane man".] **H. L. Hollingworth.** 'The Central Tendency of Judgment.' [Experiments showing that the 'indifference-point' is relative and that "the error to which it leads is distinctly an error of judgment, and quite independent of sensory or physiological conditions".]—vii., 18. **J. Dewey.** 'Some Implications of Anti-Intellectualism.' [Distinguishes two types, one anti-rationalistic and sensationalistic, and the other voluntaristic, and identifies himself with the latter, insisting that it is "an attempt which, while accepting the complete right and autonomy of knowing and of logic in its own field, tries to see what this field of knowledge and reflective intelligence is and means as a specific type of behaviour".] **H. S. Shelton.** 'On Secular Cooling as an Illustration of the Methods of Applied Mathematics.' [Criticises the premisses of Kelvin's calculation of the age of the earth in order "to show, not only that this speculation has been proved invalid by recent discoveries, but that, if the necessary limitation of mathematical methods had been clearly understood, it would never have been put forward".] **H. C. Brown.** 'If the Blind Lead the Blind.' [Brilliantly criticises some dicta of Perry's in his 'realistic program' in vii., 14, as to the value of mathematical method for philosophy, and argues that "the unclearness of mathematical logic and the lack of agreement in its usages make all efforts to transfer its concepts to philosophy impracticable". The illustrations are chiefly taken from Bertrand Russell.]—vii., 19. **J. Dewey.** 'William James.' [Thinks that he was "the greatest psychologist of his time in any country—perhaps of any time," and emphasises his 'sense of reality' and literary power. His thought was 'unsystematic' only in the sense that where "things were not simple or consistent, his philosophy did not consist in forcing system upon them". Alludes finally to James's "faith in the human significance of philosophy".] **J. E. Boodin.** 'Truth and Its Object.' [To say that the object selected or referred to in the truth attitude is always reality is a clumsy way of putting it, for the judging process does not aim at the universe generally (like the man who aimed at the bear) but is fundamentally selective, singling out the object by a conscious purpose. Absolute fact, as our final interpretation of reality, is a conceptual limit. Similarly absolute flux and absolute identity are logical limits. Truth, just because it tries to fix a world of process, must to a certain extent be hypothetical.] **H. H. Bawden.** 'Art and Nature.' [Art humanises nature.] **W. Brown.** 'Note on a Quantitative Analysis of Mathematical Intelligence.' [Experiments with boys, showing that "geometry and algebra are not at all closely related".]—vii., 20. **A. H. Lloyd.** 'The Passing of the Supernatural.' [Reflexions suggested by a magazine article on 'Christianity in the Crucible,' and a remark of "one of America's great college presidents".] **J. Dewey.** 'The Short-Cut to Realism Examined.' [Agrees with realism in so far as it means anti-idealism, but objects to the 'program' in vii., 15, as an attempt to derive conclusions regarding existence from analysis of a very ambiguous concept. Moreover, the distinction between knowing, *i.e.* active thinking and investigating, and achieved knowledge is ignored, and with it the

problems of doubt, hypothesis and error. So is the problem of the significance of knowing as a natural event in relation to other natural events. Altogether a weighty and incisive criticism.]—vii., 21. **E. L. Hinman.** 'The Aims of an Introductory Course in Philosophy.' [Thinks there has been too much Kant and not enough science.] **J. W. Hudson.** 'An Introduction to Philosophy through the Philosophy of History.' ["The reason why it is so notably hard to induce students to do independent thinking is that the problems with which we confront them do not seem to them worth while."]—vii., 22. **H. M. Kallen.** 'The Lyric Philosopher.' [A brilliantly written defence of philosophy as poetry, but thinks philosophers should become more scientific.] **D. H. Parker.** 'Knowledge and Volition.' [A criticism of Rickert, Royce and Münsterberg from an intellectualistic standpoint.] **H. H. Bawden.** 'Art and Science.' [The artist has "a certain justification in his feeling that science is arbitrary and abstract and unreal, and that his own pursuit is a more genuine envisagement of the real".]

International Journal of Ethics. Vol. xx., No. 4, July, 1910. **F. Adler.** 'The Moral Ideal.' ["Instead of a perfect individual, the moral ideal is to be described as a perfect society." A brief but very suggestive exposition of the what, the why, and the how of this principle.] **B. Bosanquet.** 'Charity Organisation and the Majority Report.' [Contends, against the recent article by Prof. T. Jones, that there is no inconsistency between the principles and work of the Charity Organisation movement and the recommendations of the Majority Report; and that the preventive aims of the Minority's proposals can be more effectively realised by those of the Majority. When the State takes over the responsibilities of individuals, the primary preventive force is enfeebled or destroyed.] **J. W. Hudson.** 'The Classification of Ethical Theories.' [Comments on the lack of unanimity in such classifications; and indicates the general conditions, and the outlines, of a valid classification. The principle of classification must be generated by the fundamental problem of ethics. This problem is as to the nature of the norm or criterion. The criterion of moral judgments is an end in the form of a kind of self to be realised. Hence the basis of classification is the conception of the nature of the ideal self; and the fundamentally different theories are such as emphasise respectively its several aspects —the ideational, the affective, and the volitional.] **H. S. Shelton.** 'Spencer as an Ethical Teacher.' [A clear and appreciative statement of his principal doctrines.] **F. C. Sharp and M. C. Otto.** 'Retribution and Deterrence in the Moral Judgments of Common Sense.' [A continuation of the account of a questionary put to students at Wisconsin. These results go to show that there is no one consistently maintained standard as the basis of popular judgments in the matter of punishment. The acceptance of retribution as a proper end of punishment does not interfere with the acceptance of deterrence. The part played by the reformative view is relatively insignificant.] **C. H. Johnston.** 'The Moral Mission of the Public School.' [A discussion of some of the problems of moral and religious education, taking as data the findings given in the recent report of the international inquiry concerning Moral Instruction and Training in Schools.] **N. Wilde.** 'Religion: a Luxury or a Duty?' [Differentiates the main types of religion, and discusses in the light of their distinctions the relation of religion to morality. The danger lies in the one without the other. "To education in religion we must add education in morals; alongside the Church will be the societies for ethical culture; as a basis for the luxury of religion, we must lay the necessity of morality."] Book Reviews.—Vol. xxi., No. 1, October, 1910. **B. Bosanquet.** 'The Prediction of Human Conduct: A Study

in Bergson.' [Contends that prediction is possible, because although (as Bergson urges) it involves actually being the identical individual whose action is concerned, individuals can be and are, in various degrees, identical with others.] **S. H. Mellone.** 'The Idealism of Rudolph Eucken.' [A brief summary of his general position. It is idealism with the emphasis on spiritual life and on progress. When Eucken appeals to human experience for the grounds of his philosophical and religious convictions, it is experience as *concrete* and as *growing*.] **J. A. Leighton.** 'Personality and a Metaphysics of Value.' [A tentative classification and relation of the most significant and important human valuations. The ultimate principle for the unification of values, and the final sustaining ground of values, is personality.] **Helen Wodehouse.** 'On Thinking about Oneself.' [Aims at distinguishing and describing various states or qualities which the moralist calls thinking of oneself—namely, selfishness, self-satisfaction or self-confidence, self-display, and self-approval or self-respect. Indicates the influence of religion upon moral self-consciousness.] **H. M. Kallen.** 'Is Belief Essential in Religion?' [Suggests the main lines of an investigation as to whether religion is identifiable with belief (the *attitude* of belief) or with the specific *object* or occasion of the attitude. Concludes that belief is no more essential to religion than to any other human institution. Religion is belief, but it is distinguished not by belief, but by belief's object.] **E. L. Talbot.** 'Two Modern Social Philosophies.' [Premises that "the problems of modern society cannot be adequately solved by inducing purely subjective attitudes in individuals, without relation to objective communal forces conditioning personal happiness"; and characterises, with reference to their philosophical and psychological antecedents, the two present-day objective interpretations of social growth—socialism and anarchism.] Book Reviews.

Archives de Psychologie. Tome ix., No. 3. **A. Ferrière.** 'La loi biogénétique et l'education.' [The procedure of education is subject to two fundamental laws. The one of these, which governs life at large, may be expressed in what the author terms the formula of progress: all ascending evolution implies differentiation and concentration of faculties and energies. The other, which takes on a special form for every creature, in accordance with its degree of development, and which determines the stages of its growth, is the biogenetic law of Hæckel. The writer discusses the view of Hertwig, Le Dantec, and Stanley Hall: he believes that the biogenetic law, particularising the law of progress, helps us to distinguish the normal from the abnormal, the physiological from the pathological, the useful in education from the harmful.] **O. Decroly** and **J. Degand.** 'Contribution à la psychologie de la lecture. [When we teach a child to read, we set in action a number of distinct mental functions, and it is questionable whether the ordinary method, of engaging these functions simultaneously, is, psychologically, the best procedure; in particular, whether the auditory analysis of the word and its representation by writing should be carried on together. The writers justify their scruple by an analysis of seven cases, five of which show the disjunction of mental functions in abnormal, and two in normal children (three and five years old). Reading may be independent of verbal motor expression, of writing, and of the understanding of language.] **W. van Stockum.** 'Le siècle futur de la psychologie d'après G. Heymans.' [In his inaugural address as rector of the University of Groningen (1909), Heymans discusses the origin of psychology; the need which gave it birth and which it fulfils; its present status as a body of scientific knowledge; and the part which it is destined to play in the civilisation of the

future. He concludes that psychology, since it aids us to know ourselves and others, will have a direct bearing upon eugenics, and will lead up to a monistic metaphysics. The writer gives an abstract of the address, and adds a twofold criticism: Heymans ignores the masses, and speaks as if the whole world were the world of the educated classes; and he places too great a reliance upon the power of psychology to formulate exact laws, and general uniformities.] **E. Tassy.** 'Théorie des émotions; notes preliminaires.' [The difficulty in the psychology of emotion is the passage from the representative to the organic state. In order that an emotion *sensu stricto*, a psychical emotion, may arise, the representation and the bodily manifestations must be related by an elementary mechanism which has connexions with both. The key to the problem lies in the 'mental' emotion, such as the 'mental fear' set up by presentation of the unknown; this mental fear brings with it its organic correlate, 'organic fear'; at the same time, as a shock to ideation, it can act upon the 'thought mass' and excite the consciousness of personality, of our own psychical activity; the self is thus interested in the work of thought, and the true or psychical emotion is complete. The three great functions, the organic, the mental and the psychical, are dissociable, and relatively autonomous each in its proper sphere; the mental mediates between the other two.] **A. Maeder.** 'La Langue d'un aliéné; analyse d'un cas de glossolalie.' [Range of ideas, vocabulary, and syntax, in a case of *dementia præcox*. The speech has the usual characters of affectivity and infantalism; it is, however, not demonstrative, as glossolalia ordinarily is, but has the cast of preoccupation with self which is characteristic of the disorder.] **A. Reymond.** 'Caractère rôle de l'histoire et de la philosophie des sciences.' [Philosophy is characterised by universality of problem and subjectivity of its solution; science by restriction of problem, and by postulation of principles whose objectivity may at any time be controlled. The philosophy of science has the task of bringing into clear light the methods and principles peculiar to the various sciences, and of comparing them with a view to classification. For this twofold task, the history of science is an indispensable aid. Further, a knowledge of history is of direct value to men of science, and a knowledge of the methods and principles of science is of direct value to philosophers.] Bibliographie. Notes diverses.

Revue de Philosophie. Septembre-Octobre, 1910. A double number, all devoted to studies of Darwinism. 1. **A. Gemelli.** 'Darwinism and Vitalism.' 2. **A. Briot.** 'The Problem of the Origin of Life.' 3. **C. Torrend.** 'Transformism in the Lowest Grades of the Vegetable Kingdom.' 4. **E. Wasman.** 'The Psychical Life of Animals.' 5. **H. Colin.** 'Mutation.' 6. **R. de Sinéty.** 'Mimetism and Darwinism.' 7. **M. Kollmann.** 'The Factors of Evolution, Selection and the Influence of Environment.' 8. **R. D.** 'The Fundamental Law of Biogenesis.' [That Phylogenesis is the mechanical cause of Ontogenesis, doubts thereon.] 9. **J. Gerard.** 'State of the Controversy in England.' 10. **J. Maritain.** 'Neo-vitalism in Germany and Darwinism.' [In Nos. 1 and 10, the ablest articles of this able and important issue, Darwinism is shown to be essentially mechanical, and, as such, to be set aside by the Aristotelian 'entelechy,' revived upon experiments of the segmentation of the ovum by M. Driesch. No. 2 details the dispute between Bastian and Pasteur on Spontaneous Generation. No. 3, a shrewd and sparkling article, deals among other things with the permanence of type among the cosmopolitan Myxomycetæ, and with the fiction of a primitive plasm. No. 7 discusses the transmission of acquired characteristics.]—Novembre, 1910. **C. de Pesloüan.** 'Researches on the Nature of the Diamond.' [An interesting account of the steps whereby Lavoisier arrived at the conclusion what combustion is,

and that the diamond is combustible.] **R. van der Elst.** 'Suggestion.' ["There is a twofold suggestion, one morbid, another normal; one annihilating consciousness and will, the other leaving them intact and calling them to aid; one infallible, the other problematical."] **S. Belmond.** 'The Knowledge of God according to Duns Scotus.' [That Scotus did not lead up either to Hume, for Agnosticism, or to Rosmini, for Ontologism.] **Th. L.** 'Positivism and Pragmatism.' [The latter evolved from the former.]—Decembre, 1910. **A. Gomez Izquierdo.** 'The Philosophy of Balmez.' [What Balmez understands by 'common sense,' and under what conditions he takes it to be the criterion of truth.] **R. Jeannière.** 'The Theory of Concepts in Messrs. Bergson and James.' [How to reconcile concept with intuition? How, on the idealist principle that *esse* is *percipi*, can the same object be viewed by different observers under different aspects?] **G. Larroque.** 'Descartes and Sociology.' [Traces the creed of Liberal politicians to the philosophy of Descartes.] **P. Le Guichaoua.** 'Metaphysical Theories of Movement.' [An attempt to set up the Aristotelian theory of matter and form as the sole rational account of movement.]

Revue Néo-Scolastique. Août, 1910. **P. Mandonnet.** 'Roger Bacon and the Speculum Astronomiæ.' [Reasons for assigning the work to Bacon, not to Albertus Magnus. Bacon's predilection for astrology.] **C. Piat.** 'The Life of Intelligence.' [Mill's reduction of evidence to long familiarity; his ignoring of any essential exigencies of things; his admission of a "permanent possibility of sensation," fatal to his philosophy.] **F. Palhoriès.** 'The Moral Problem and Sociology.' ["The moral problem is above all a question of *value*, which must consequently be solved, not by the pure and simple statement of the manners and behaviour of man, but by the higher consideration of what man must be to have a moral value, a human dignity, to realise in himself that which his quality of man essentially implies. From this point of view, the idea of the order of beings must be placed at the very basis of morality."] **F. de Hovre.** 'The Social Philosophy of Benjamin Kidd.'

Revue de Métaphysique et de Morale. 17e Année, No. 5. **L. Lévy-Bruhl.** 'L'orientation de la pensée philosophique de David Hume.' **Henri Dufumier.** 'Les théories logico-métaphysiques de MM. B. Russell et G. E. Moore.' **René Berthelot.** 'Sur le pragmatisme de Nietzsche' (*suite et fin*). Étude Critique, Supplément, etc. —17e Année, No. 6. **É. Durkheim.** 'Sociologie religieuse et théorie de la connaissance.' **G. Dwelshauvers.** 'La Philosophie de Jules Lagneau.' **K. B.-R. Aars.** 'La nature de la pensée logique.' Correspondance inédite de Ch. Renouvier et de Ch. Secretan (*suite*). —18e Année, No. 1. **F. Enriques.** 'La metaphysique de Hegel considérée d'un point de vue scientifique.' **A. Lasson.** 'Quelques remarques sur *l'Ethique à Nicomaque*.' **Ch. Dunan.** 'La morale positive.' **C. Bouglé.** 'Le Darwinisme en sociologie.' Questions Pratiques: **Guy-Grand.** 'Le procès de la démocratie.' Supplément. —18e Année, No. 2. **E. Boutroux.** 'Hasard ou Liberté?' **B. Brunhes.** 'L'objectivité du principe de Carnot.' **F. Le Dantec.** 'Il y a fagots et fagots.' **H. Daudin.** 'F. Rauh: sa psychologie de la Connaissance et de l'Action.' Études Critiques, Variétés, Questions Pratiques, Supplément.—18e Année, No. 3. **B. Russell.** 'La théorie des types logiques.' Correspondance inédite de Ch. Renouvier et de Ch. Secretan (*suite*). **H. Daudin.** 'F. Rauh: sa Psychologie de la Connaissance et de l'Action.' Discussion: **J. Lachelier.** 'Note sur les deux derniers arguments de Zénon d'Élée contre l'existence du mouvement.' Supplément, etc. Numéro Supplémentaire: Trois lettres d'Epicure, Version française par **O. Hamelin.**

Revue Philosophique de la France et de l'Étranger. 35e Annee, No. 8. **F. Maugé.** 'La fonction de la philosophie dans la science positive.' **A. Joussain.** 'Le cours de nos idées.' **M. Millioud.** 'La propagation de nos idées.' Analyses et Comptes Rendus, etc. —35e Année, No. 9. **C. Hemon.** 'Recherches expérimentales sur l'illusion des amputés et sur les lois de sa rectification.' **G. Truc.** 'La nature psychologique de l'état de grace.' **G. H. Luquet.** 'L'induction en mathématiques.' Notes et Discussions, Revues, Analyses, etc.

Archiv für Systematische Philosophie. Bd. xv., Heft 4. **A. Berkowitz.** 'Identität und Wirklichkeit.' **H. G. Moreau.** 'Le "sentiment intérieur" et son rôle dans la psychologie de Lamarck.' **M. Horten.** 'Die sogenannte Ideenlehre des Muammar, 850.' **P. Schwartzkopff.** 'Der Gegenstand der Erkenntnis.' **M. Bär-Kupperberg.** 'Die Welt der Natur- und Geisteswissenschaften, die Metaphysik und die Philosophie.' **H. Gomperz.** 'Über Persönlichkeitsbewertung.' **Dr. Denckmann.** 'Der Wille.' Der vii. sociologische Kongress in Bern von 20 bis 24 Juli, 1910. Die neuesten Erscheinungen auf dem Gebiete der systematischen Philosophie, etc.—Bd. xvi., Heft 1. **Oscar Prochnow.** 'Die Ideenlehre in modernem Gewande.' **Georg Wendel.** 'Ethische Betrachtungen.' **Emil Raff.** 'Zur Wissenschaft des Spinozismus.' **Viktor Stern.** 'Die Philosophie meines Vaters.' **Lorenzo Michelangelo Billia.** 'Les quatre règles inexactes du syllogisme.' **Lorenz Pohorilles.** 'Die Psychogenesis der Philosophie und der Erkenntniswert der Mystik.' **Gertrud Kühl-Claassen.** 'Das Problem der Form in der Ethik.' **Heinrich Romundt.** 'Kant und Wundt über Metaphysik.' **Otto Neurath.** 'Definitionsgleichheit und symbolische Gleichheit.' Preisaufgabe der Kant-Gesellschaft. Neueste Erscheinungen, etc.—Bd. xvi., Heft 2. **Olga Hahn.** 'Über die Koeffizienten einer logischen Gleichung und ihre Beziehungen zur Lehre von den Schlüssen.' **O. Hilferding.** 'Versuch zu einer physiologischen Grundlage der Freiheit.' **Alexander Wedenskij.** 'Ein neuer und leichter Beweis für den philosophischen Kritizismus.' **H. G. Moreau.** 'Le Positivisme de Lamarck.' **Martin Meyer.** 'Kategorischer Imperativ und Religion.' **Theodor Kehr.** 'Ein logischer Versuch über das Kategorienproblem.' **Hugo Bergmann.** 'Zur Frage des Nachweises synthetischer Urteile a priori in der Mathematik.' Jahresbericht: Die Philosophie in Finnland. Neueste Erscheinungen, etc.—Bd. xvi., Heft 3. **James Lindsay.** 'The Psychology of Belief.' **Hans Prager.** 'Henri Bergsons metaphysische Grundanschauung.' **F. L. Denckmann.** 'Die Seele.' **Kurt Peschke.** 'Politik als Wissenschaft und Philosophie.' **Alfred Hartung.** 'Die Wahrscheinlichkeitsrechnung in Hartmanns *Philosophie des Unbewussten.*' **Viktor Schlegel.** 'Die Entwicklung des Menschen. Umriss einereinheitlichen Weltanschauung.' **Ernst Kieseritzky.** 'Die Emancipierung von der Folgestrenge.' **Aloys Müller.** 'Über den Begriff der Wahrheit der Erkenntnis.' **Theodor Kehr.** 'Die gesehene oder ungesehene Welt oder der Gegenstand und sein Bild.' **Wolrad Eigenbrodt.** 'Die Philosophie in Finnland.' Jahresbericht: **Anna Tumarkin.** 'Bericht über die deutsche ästhetische Literatur aus den Jahren 1905-1909. Neueste Erscheinungen, etc.

Zeitschrift f. Psychologie. Bd. lvi., Heft 1 und 2. **H. Ohms.** 'Untersuchung unterwertiger Assoziationen mittels des Worterkennungsvorgangs.' [Pairs of words, *a-b, c-d,* etc., are associated by repetition, but not so strongly that on presentation of the first term the second is reproduced; the associations are subliminal. Nevertheless, if *a* is shown, *b* is in some measure prepared for. The problem is to determine the degree of influence exerted by *a;* it is solved by the pre-

sentation of *b*, under conditions which render its apprehension difficult; the cognition time of *b* is taken, and compared with that of a *d* whose correlated *c* has not been previously exposed. Visually, the necessary conditions are realised by means of the tachistoscope; auditorily, by means of an old-fashioned telephone. (1) The words prepared for (Russian words connected with their German equivalents) are invariably better apprehended than words not prepared for. (2) The cognition times show no appreciable differences of a general kind, though their relations (under the two sets of experimental conditions) vary definitely with the mental type of the observer. (3) Investigation of the influence of the age of the subliminal association upon the process of preparation shows that associative preparation is of small account if a preservative preparation is already in the field.] **S. Witasek.** 'In Sachen der Lokalisationsdifferenz; zur Klärung und Abwehr.' [Reply to Hildebrand's criticism in Bd. liv.; the author reiterates his conviction of the reality of the difference of monocular localisation.] **W. Sternberg.** 'Geschmack und Sprache.' [All languages, living and dead, appeal to the sense of taste to designate æsthetic enjoyment. The reason is that the taste qualities are connected, most intimately, with the feelings of pleasantness-unpleasantness; taste is the bridge that leads from pure sensation to 'common feeling'; linguistic usage is thus physiologically justified. As instances in which the guidance of language may be of service, the writer cites the distinction of nauseous (said of substances in the mouth) and nauseating (said of substances that may act at a distance, as by sight, or even by way of verbal description), and the range of the desiderative verbs in Greek and Latin.] Literaturbericht.—Bd. lvi., Heft 3. **W. Peters.** 'Über Äehnlichkeitsassoziation.' [In the typical association by similarity, the perception *abcd* reproduces the idea *abmn*; the factor *ab* may be absolutely identical in both formations, or may be only relatively the same (spatial relations in photograph and original picture, tonal relations in melody played in different keys). It thus differs in two ways from the typical association by contiguity, or empirical association: for in this the reproduced idea would be *mn*, not *abmn*, and the reproductive tendency would issue from *abcd*, not from *ab* alone. Experiment shows that association by similarity is of frequent occurrence when a nonsense-syllable is replied to by another nonsense-syllable or an ordinary word; that the number of syllables in the associated word depends upon that of the stimulus word; that the reactor tends to error by altering that sound in a syllable whose change results in the closest resemblance to the original syllable; that the efficiency of reproduction depends upon degree of similarity; that the ratio of similiarity-associations to memory varies with individuals, and also with the number of readings of the presented material. These results may all be explained on the hypothesis of a partial preservation of the reproducing perception. Incidentally, the author points out that an association by similarity need not involve consciousness of similarity; and that there is no evidence of an effective similarity that can be defined as 'qualitative propinquity,' such as has been assumed, *e.g.*, in the case of colours.] Literaturbericht. **K. Vossler.** 'Erklärung.' **A. Marty.** 'Entgegnung.' [Apropos of a review in Bd. lii.] 'Der VII. Internationale Kongress für Kriminalanthropologie.'

Zeitschrift für Philosophie und Philosophische Kritik. Bd. cxxxix., Heft 2. 1910. **Bernhard Detmar.** 'Carneades und Hume.' **Dr. Hans Eibl.** 'Platons Psychologie (Schluss).' **Karl Bornhausen.** 'Das religiose Apriori bei Ernst Troeltsch und Rudolf Otto.' **Dr. Rudolf Kinkel.** 'II. Literaturbericht über Erscheinungen aus dem Gebiete der Ethik und Religions-philosophie.' Notizen, etc.

IX.—NOTES.

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NOTE ON EPICUREANISM AND NATURAL LAW.

Dr. John Masson, in one of the Appendices to the complementary volume of his interesting work entitled *Lucretius: Epicurean and Poet* (London, 1909) takes occasion to dispute the late Prof. Sellar's assertion (adopted by me) that in the philosophy of Lucretius "the *fœdera naturai* are opposed to the *fœdera fati*". And he goes on to maintain against me that Epicurus is justly credited with proclaiming the reign of law (*op. cit.*, pp. 168-169). It is unfortunate that Dr. Masson's references are made not to the chapter on Epicurus and Lucretius in volume ii. of my *Greek Philosophers*, but to an article in the *Westminster Review* for April, 1882, of which that chapter is a revised reprint. Thus it is neither easy for me to verify his quotations nor to tell how far I am responsible for the exact wording in which they are given. However, my opinion of the scientific value of Epicureanism has remained substantially unaltered since it was first published; and I am prepared to abide by the particular expression given to it in my *Greek Philosophers*.

First as to the *fœdera naturai*. These, according to Dr. Masson, "are never really opposed by Lucretius to the *fœdera fati*". I admit that they are not opposed in terms; but they are practically opposed to an extent that fully justifies Prof. Sellar's use of the word. For the *fœdera naturai* are never once mentioned as having been broken, whereas the *fœdera fati*, on the sole occasion when the phrase occurs in Lucretius, are mentioned only as being broken. The passage runs as follows:—

> "Denique si semper motus connectitur omnis
> et vetere exoritur semper novus ordine certo
> nec declinando faciunt primordia motus
> principium quoddam quod fati fœdera rumpat
> ex infinito ne causam causa sequatur."
>
> —(*De Rerum Naturâ*, ii., 251-255).

Translated by Munro: "If all motion is ever linked together and a new motion ever springs from another in a fixed order, and first beginnings do not by swerving make some commencement of motion to break through the decrees of fate that cause follow not cause from everlasting". Or, as he puts it in the note, "to break the perpetual sequence of cause and effect". Thus the *fœdera fati* stand for two fundamental laws of Nature, the law of universal causation, and the law that the ultimate atoms of which all existing things are composed fall for ever downward through infinite space with the same uniform velocity and in perpendicular straight lines. They are only associated with fate in a metaphorical way and without any reference to the predetermination of events by supernatural volitions. Where Lucretius elsewhere refers to fate, which is not often (bk. v., 110, 310, 874), it is much as we use the word, that is in the sense of an inevitable catastrophe. *Fœdera naturai*, on the other hand, are not ultimate laws of Nature, but rather the fixed conditions within which composite bodies, and more particularly organic bodies, fulfil their appointed and strictly finite term of existence (bk. i., 580; bk. ii., 302; bk. v., 58, 311, 922; bk. vi., 906. The last instance is exceptional, dealing as it does with the cause of magnetism).

What breaks the *fœdera fati*, the law of universal causation and the first Epicurean law of motion, is what Lucretius calls the *clinamen*, the slight occasional deflection of the falling atoms from their rectilinear descent, assumed by Epicurus in order to account for the fortuitous con-

course whence the present frame of things was, in his philosophy, supposed to result. That such a breach of natural laws is possible and even of everyday occurrence the Epicureans thought might be proved by appealing to the alleged fact of human and animal freewill. But obviously they did not restrict this immunity from unbroken causal sequence to men and animals. It is shared by every single atom, and when, or how often, or with what results it may come into play is an absolutely incalculable contingency. Dr. Masson as a close student of Epicureanism must know this as well as I do, yet in his criticism on my criticism he utterly ignores it. He suggests that "perhaps Mr. Benn holds that a belief in free-will is not consistent with a belief in Laws of Nature. This would help us to understand his assertion that Epicurus did not to any extent believe in Law" (*op. cit.*, p. 170). What the implications of human freewill—supposing it to exist—may be, or what I personally think about the question does not concern us here. What we are concerned with is the question whether uncaused atomic deflection is consistent with unbroken natural law or not. I say that it is not; and at any rate I have Lucretius on my side. Dr. Masson in the passage where he attacks me does indeed assert the contrary. I am accused of failing "to see that Lucretius draws a sharp distinction between the world of Nature, subject to law, and the human mind which is free. So far as Nature—that is, the method of the world's ongoings—is concerned, without taking into account the agency of men, Lucretius holds that *causam causa sequitur*—'cause does follow cause'." I may be excused for failing to see what no one but Dr. Masson has ever seen and what in fact does not exist. Lucretius draws no such distinction as that with which he is here credited between the world of nature and the human mind. On the contrary, as might be expected from his materialistic philosophy, he closely assimilates the two. There is spontaneity in our volitions precisely because there is spontaneity in the atoms of which our minds are composed. Incidentally one might ask to which of the worlds, nature or mind, do horses belong? For Dr. Masson seems to forget that the poet mentions these animals also as gifted with freewill. Nor can we suppose that horses are the only animals in possession of this power. All conscious beings might be quoted with equal reason as exceptions to the law of causal sequence. I am not concerned to deny that Epicureanism recognises the existence of uninterrupted causal sequences as a general characteristic of Nature. But it recognises the same sequences as equally characteristic of rational human action. Otherwise there would be no meaning in its appeal to pleasure and pain as prevailing motives of conduct. Lucretius knew quite well that, freewill notwithstanding, horses were generally amenable to bridle and spur, and Roman soldiers to the discipline of the Roman camp. But I deny that one who admits of physical exceptions to physical causation has—what Dr. Masson ascribes to him—"the firmest grasp of the fact of law" (*loc. cit.*).

With regard to the *clinamen* Dr. Masson makes the remarkable statement that "as we saw, Epicurus held that Freewill, though active in the atoms is nullified when these combine in matter" (*loc. cit.*). No reference is given; nor on hunting up every possible reference in the indices to both volumes have I been able to find any passage bearing on the subject. Meanwhile the statement is in obvious conflict with the admission of freewill in human beings and animals, for their minds, according to Epicurus, are composed of atoms combined in matter. There is moreover a striking passage where Lucretius seems to admit at least the possibility of a deflection from the perpendicular in the fall of all heavy bodies. Arguing that the deflection of atoms from the perpendicu-

lar line of descent must be imperceptibly minute, he explains the necessity of such a limitation in order to bar out the possible objection drawn from sensible experience, that no such deflection is ever seen to occur in the fall of heavy bodies ; for on that assumption if it occurred it would not be seen :—

> "namque hoc in promptu manifestumque esse videmus,
> pondera, quantum in sest, non posse obliqua meare
> ex supero cum præcipitant, quod cernere possis ;
> sed nil omnino recta regione viai
> declinare quis est qui possit cernere sese ?" (ii., 246-250).

In Munro's translation: "For this we see to be plain and evident that weights, so far as in them is, cannot travel obliquely, when they fall from above, at least so far as you can perceive ; but that nothing swerves in any case from the straight course, who is there that can perceive ?" Had it been an Epicurean dogma that the atomic deflections are nullified in material combination nothing could have been easier for Lucretius than to have offered that explanation. The subterfuge to which he has recourse suggests that in his opinion, and probably in his master's, the *clinamen* was always going on. Absurdity for absurdity this seems less irrational than to suppose that atomic spontaneity remained dormant through the whole period of inorganic evolution and that it suddenly reappeared as an accompaniment of conscious life. Anyhow whatever its extension or restriction the anomaly remains, "atomos declinare sine causa," as Cicero says, "quo nihil turpius est physico". Like the result of another celebrated lapse the deviation was a very little one—"paullum nec plus quam minimum," as our poet modestly pleads—but enough to entail the loss of his philosophical honour. To say that "Lucretius had the firmest grasp of the fact of Law," is to betray in oneself the loosest grasp of the fact of logic.

Dr. Masson further takes me to task for saying that "when Lucretius speaks of *fœdera Naturai* he means not what we understand by Laws of Nature . . . but rather the limiting possibilities of existence" (*loc. cit.*)—a phrase which he understands as meaning that "Lucretius grasped merely the negative side of natural order" ; adding that "a less fair criticism than this could hardly be made". This is unjustifiably strong language. I have given references above to every passage where Lucretius talks about *fœdera Naturai*, and I submit that in each instance except that relating to the cause of magnetism it is the negative rather than the positive side of natural order that he emphasises. And in that single instance the object of his very forced hypothesis is probably to dispel the idea that the loadstone owes its virtue to supernatural agency. Dr. Masson refers to the Lucretian phrase *majestas cognita rerum* as implying the inspiration of "something more than negative knowledge". But does that phrase after all refer to Nature ? Munro's translation, "the acknowledged grandeur of the things," seems to show that he did not take that view, but rather interprets it as referring to the momentous human interests concerned. And what Lucretius goes on to glorify in the subsequent lines is not the wonders of Nature or of natural science, but the unprecedented services of Epicurus in rescuing mankind from the superstitious terrors that made their lives a misery and a burden. And so for his own part the poet promises to teach "by what law (*foedus*) all things are made, what necessity there is for them to continue in that law, and how impotent they are to annul the binding statutes of time" (v., 57-59, Munro's translation). This is not "merely the negative side of natural order," and I never said that it was ; but it is a note of limitation and control rather than of intellectual joy and hope.

Lucretius was, in my opinion, the greatest of Roman poets; and I am ready to admit that he was animated, far more than Epicurus, by a genuine though fatally misguided interest in the details of physical investigation. But his practical Roman genius, working in almost complete ignorance of the physical universe as it is actually constituted, debarred him from rising to such a delighted æsthetic apprehension of Nature's laws in their supreme totality as has been attained, under the influence of Spinoza, by modern poets like Goethe, Tennyson, and Matthew Arnold.

ALFRED W. BENN.

A METAKRITIK.

Prof. Perry's very suggestive article in the July number of MIND moves me to offer some observations upon his criticism of Berkeley's famous argument against the existence of material objects.

The main proposition which Berkeley aimed to establish was in substance the following: Material objects are not objects of our actual perception, nor is the supposition of such objects necessary or even legitimate in explaining our perceptual experience.

Berkeley's reasoning in support of the first part of this proposition is based upon an analysis of perceptive experience, and of the meaning of the so-called material object. To take Berkeley's example, the tulip.

Examination of our experience in perceiving the tulip shows that this perceiving experience consists of sensations (actual and possible), these sensations being combined into a definite group or complex.

This group or complex of sensations is the content of my idea of the tulip, idea being the name for that which is before the mind in perception. My idea of the tulip is, therefore, this definite complex of sensations, and all that exists as the mind's object in this special instance of perceiving. To perceive the tulip is to have just this complex of sensations, just this particular portion or content of experience. This complex of sensations is object in the sense that it is that of which there is awareness, consciousness, and which can be described, or named, and about which assertions can be made.

But the object plainly exists nowhere but in experience, since its content is the stuff ideas are made of. Now, when I examine this thing or object which is called tulip, I find that I can give no meaning to any of its so-called qualities, colour, size, distance, etc., save as I make them identical with sensations (actual or possible).

So far as these qualities are knowable they are the stuff ideas are made of. If they are anything more than experience-content, I am totally unable to say what that something more is.

Now, the sum of the qualities of this tulip, taken in their definite mode of co-existence, make up the content, the *esse* of the tulip itself. The name tulip connotes just this definite complex of qualities; and, since these qualities on examination turn out to be only modes of experience or sensations, this word tulip connotes these modes of experience or sensations, and these only. The *esse* of the tulip and this complex of sensations are one and the same thing.

Therefore, when I say I perceive a tulip, I must mean, I have here and now a certain definable complex of sensations, or definable portion of experience-content which is named tulip. It inevitably follows from this, that the tulip as an object of perception can exist only when it is perceived; for, as our analysis has shown, its very *esse*, being experience-content, the tulip can exist only *in* experience and *as* experience; and hence to suppose it to exist when not perceived, *i.e.*, when it is not experience, is to suppose that it exists when it does *not* exist.

Now let us turn to Mr. Perry's criticism of this reasoning. Mr. Perry admits that the object, when it is known and as known in perception, exists only as idea, *i.e.*, as a complex of sensations, etc., or rather that "Its content is identical, element for element with the idea or content of the knowing state" (p. 331).

Of the tulip perception Mr. Perry says: "When one perceives the tulip, the idea of the tulip and real tulip coincide, element for element; they are one in colour, shape, size, distance, etc." (pp. 331-332).

The tulip in being known, exists under this form of idea. Its being known, is a mode of existence which pertains to the tulip; it is a status in which it may exist. This cognition-status is analogous to a political office, which a citizen of the United States may hold,—a status in which he may exist, say the office of President.

Now, the point of Mr. Perry's contention is, that this mode of its existence in which the tulip is a known object, is not the only mode of its existence; and that its existence does not depend upon its existing in this mode. This cognition-status is one into which the tulip-object enters; but it does not need to enter into this status, in order to exist as a tulip. In short, just as a man can enter into the status of being President of the United States, and go out of that status, without affecting his existence as a man, the status being accidental and not essential to his existence, so the tulip can enter into the cognition-status, or pass out of it, without "forfeiture of its nature or identity".

Berkeley's error, according to Mr. Perry, lay in his assumption that the cognition-status is the only status possible to an object; and that, since in that status the *esse* of the object is *percipi*, the object can exist only when perceived. That is an error as palpable as it would be to infer that Mr. Taft can only exist in the status of President, because he can be known only as President when he exists in that status. Mr. Perry maintains, therefore, that Berkeley's reasoning fails to establish his idealistic proposition. He maintains that the only thing Berkeley does establish in the case of the tulip is, that when it is known in perception, its *esse* is *percipi*; but from this fact it does not follow that the tulip must be perceived in order to exist, or that the tulip exists only when it is perceived. Now, if I rightly understand Mr. Perry's criticism, I think a Berkeleyan idealist could make in substance the following reply to it: Berkeley's reasoning has shown that the *esse* of any material object, so far as that object exists, in our human world is of the stuff ideas are made of, and consequently that an object *qua* object exists nowhere but in experience, and as experience-content. The tulip, we know or can know, has for us no other *esse* or meaning but that which its name connotes; and it has been shown what that name connotes. The word tulip and the words "complex of sensations," etc., are names for the same reality. The tulip as known is the tulip which exists, and all the tulip-existence there is for our human minds. Whatever other existence there may be, whatever other kind of reality there may be in the universe, is another story; this tulip-reality is just that which has been defined and verified. This definition exhausts the meaning of tulip.

Berkeley maintained that there are other real-beings somewhere involved in the case of the tulip. Indeed it is necessary to suppose a real-being in order to explain the tulip-existence, but this other being is not the tulip in some other status of its existence.

Hence, to suppose the same material object called tulip to exist in some other mode or status, or to suppose it exists when not perceived, is to suppose it is a tulip when it is *not* a tulip, or that this object exists when it does *not* exist.

JOHN E. RUSSELL.

FIRST UNIVERSAL RACES CONGRESS.

London University, July 26-29, 1911.

President: The Right Hon. Lord Weardale.

Hon. Secretary: Mr. G. Spiller, 63 South Hall Park, Hampstead, London.

Questionnaire.

(Replies must reach the Hon. Sec. by 15th June, 1911.)

1. (*a*) To what extent is it legitimate to argue from differences in physical characteristics to differences in mental characteristics? (*b*) Do you consider that the physical, or mental, characteristics observable in a particular race are (1) permanent, (2) modifiable only through ages of environmental pressure, or (3) do you consider that marked changes in popular education, in public sentiment, and in environment generally, may, apart from intermarriage, materially transform physical and especially mental characteristics in a generation or two?

2. (*a*) To what extent does the status of a race at any particular moment of time offer an index to its innate or inherited capacities? (*b*) Of what importance is it in this respect that civilisations are meteoric in nature, bursting out of obscurity only to plunge back into it, and how would you explain this?

3. (*a*) How would you combat the irreconcilable contentions prevalent among all the more important races of mankind that *their* customs, *their* civilisation, and *their* race, are superior to those of other races? (*b*) Would you, in explanation of existing differences, refer to special needs arising from peculiar geographical and economic conditions, and to related divergences in national history, and, in explanation of the attitude assumed, would you refer to intimacy with one's own customs leading psychologically to a love of them and unfamiliarity with others' customs tending to lead psychologically to dislike and contempt of these latter? (*c*) Or what other explanation and arguments would you offer?

4. (*a*) What part do differences in economic, hygienic, moral and educational standards play in estranging races which come in contact with each other? (*b*) Is the ordinary observer to be informed that these differences, like social differences generally, are in substance almost certainly due to passing social conditions and not to innate racial characteristics, and that the aim should be, as in social differences, to remove these rather than to accentuate them by regarding them as fixed?

5. (*a*) Is perhaps the deepest cause of race misunderstandings the tacit assumption that the present characteristics of a race are the expression of fixed and permanent racial characteristics? (*b*) If so, could not anthropologists, sociologists, and scientific thinkers as a class, powerfully assist the movement for a juster appreciation of races by persistently pointing out in their lectures and in their works the fundamental fallacy involved in taking a static instead of a dynamic, a momentary instead of a historic, a local instead of a general, point of view of race characteristics? (*c*) And could such dynamic teaching be conveniently introduced into schools, more especially in the geography and history lessons; also into colleges for the training of teachers, diplomats, colonial administrators, and missionaries?

6. (*a*) If you consider that the belief in racial superiority is not largely due, as is suggested in some of the above questions, to unenlightened

psychological repulsion and under-estimation of the dynamic or environmental factors, please state what, in your opinion, the chief factors are? (*b*) Do you consider that there is fair proof, and if so what proof, of some races being substantially superior to others in inborn capacity, and in such case is the moral standard to be modified?

7. (*a*) Do you think that each race might with advantage study the customs and civilisations of other races, even those you think the lowliest ones, for the definite purpose of improving its own customs and civilisation? (*b*) Do you think that unostentatious conduct generally, and respect for the customs of other races, provided these are not morally objectionable, should be recommended to all who come in passing or permanent contact with members of other races?

8. (*a*) Do you know of any experiments on a considerable scale, past or present, showing the successful uplifting of relatively backward races by the application of purely humane methods? (*b*) Do you know of any cases of colonisation or opening of a country achieved by the same methods? (*c*) If so, how far do you think could such methods be applied universally in our dealings with other races?

INTERNATIONAL CONGRESS OF PHILOSOPHY.

The Fourth International Congress of Philosophy will be held at Bologna from 6th April to 11th April, and will be organised in eight sections: (1) General Philosophy and Metaphysics, (2) History of Philosophy, (3) Logic and the Theory of Science, (4) Ethics, (5) Philosophy of Religion, (6) Philosophy of Right, (7) Æsthetics, (8) Psychology. In addition there will be general sittings with addresses by Arrhenius, Barzellotti, Boutroux, Eucken, Langevin, Ostwald, Poincaré, Riehl, Schiller, Stout, Tocco, and Windelband; and discussions, in one of which Bergson figures as the opener. Papers are to be sent in by the 1st January, 1911, and not more than one is to be entered in any one section. The subscription for members is 25 francs. The secretary is Prof. G. C. Ferrari, Piazza Calderini 2; and the treasurer Comte Filippo Cavazza, Via Farini 5, both in Bologna.

To the Editor of "Mind".

May I be allowed to make a necessary correction in my notice of Dr. Werner's *Aristote et l'Idéalisme Platonicien* (Mind, N.S., 76, p. 593, l. 6). The mysterious reference to "the great splenic" emanates not from me but from the compositor, whose work I was by some accident given no opportunity to correct. What I actually wrote I do not know; probably "the great *Hellenic* [systems]" would give the necessary sense.

Yours faithfully,

A. E. Taylor.

St. Andrews, 8th December, 1910.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—THE PSYCHOLOGICAL EXPLANATION OF THE DEVELOPMENT OF THE PERCEPTION OF EXTERNAL OBJECTS (III.). (Reply to Prof. Stout.)

By H. W. B. Joseph.

I venture not without hesitation to make some remarks upon Prof. Stout's reply in the January issue of Mind to my articles in the preceding numbers. In replies and rejoinders and re-rejoinders the original and main subject of a controversy is apt to be buried out of sight. I will try to avoid this danger. This will be all the easier, because Prof. Stout himself has not gone into detail in regard to my special criticism, but has rather indicated in what important respects I seem to have misunderstood, or he has modified, his position; and a large part of his article is occupied with an interesting statement of his own present views.

So far indeed as I can conjecture, were Prof. Stout to re-write his chapter, 'supplying what' he now regards 'as deficiencies and rectifying inaccuracies,' it would still leave me unhappy. I urged (Mind, vol. xix., p. 310) that there was a confusion between apprehension and what is apprehended, which, to judge by his reply, he would not admit, and again (*ib.*, pp. 461-462) a confusion in the use of the word *external*, when he is discussing the emergence of the distinction between self and the external thing. I believe these confusions, if such they are, to require for their removal rather a revision of his principles, than a more faithful and accurate following out of them; if they are not confusions, a drastic revision of principles is demanded of me. I mention these points illustratively; I could easily find others; *e.g.* Prof. Stout writes

that 'Mr. Joseph appears to find great difficulty in the conception of an extensive character belonging directly to sensuous presentations as such. But his objections seem all to hinge on the assumption that the parts of the extensive quantum are distinguished by the qualitative differences which have been called local signs. This, however, is merely a hypothesis which may very well be false. What, from my point of view, is important is not the hypothesis but the fact which it is intended partially to explain.' I am afraid there is a long way yet between us. It is not merely that I think the arguments against the hypothesis of local signs conclusive, while Prof. Stout thinks them only strong. I think them conclusive against any theory which supposes 'an extensive character belonging directly to sensuous presentations as such'. My objections hinged indeed on the assumption that the parts of this extensive quantum are distinguished and related by qualitative differences that are signs of place, not on any theory as to the precise qualitative nature of these signs; local signs, it must be remembered, are not any known qualitative differences, but only supposed qualitative differences supposed to be signs of place. If Prof. Stout means by its extensive character that the parts of a sensuous presentation as such are from the beginning apprehended as spatially related, then of course no hypothesis of local signs will be required, since the space-relations which they are supposed to signify would be apprehended instead; but then, when it is granted that I can from the beginning apprehend directly a whole of parts related in space, I do not see why it should be said that this whole is a presentation, nor if this is said, what the relation of the space occupied by presentations is to the space occupied by things. I do not, however, either understand him to say that he never expressed, or feel clear that he now abandons the other view, to which my criticisms were directed, that the parts of the extensive quantum called a presentation are distinguished originally by qualitative and not spatial differences. After all, he told us that 'the perception of spatial order is primarily the perception of position, distance, and direction' [relations, be it remembered, alleged not to be in themselves spatial] 'within a system of local signs'; and if for 'local signs' we write 'qualitative differences of some sort,' the statement seems to me to remain altogether false. But if we write 'parts locally distinguished,' and the parts are parts of presentations, then 'sensuous presentations as such' will consist of parts locally distinguished; and either there will be two extensions, that of things and that of sensuous presentations as such, or sensuous pre-

sentations as such will be in the same space with things; for I assume here, what I tried to show on pp. 310-311, that the extensity of sensuous presentations cannot develop into the extension of things. On the other hand, if the parts are parts of things, the perception of spatial order will be primarily what it is ultimately, and no problem of genesis for psychology arises.

One passage indeed in Prof. Stout's reply puzzles me altogether. 'I certainly did not say or think,' he says (p. 2), 'that the sense-experiences having the required character [of distinctively conditioning the awareness of "external" existence] are or can be separately apprehended, so as to demand or even to admit of a further process of transition from sensation to external object. On the contrary, the view indicated is that, from the outset, experiences fulfilling the assigned conditions necessitate by their nature the assertion of external existence. This is the position of the *Manual* and *Groundwork*.' I confess I thought that a process of transition from sensation to external object was exactly what the chapter was concerned with, though doubtless the transition was psychologically necessitated by the nature of the original psychical experiences; and that the chapter explained what in their nature necessitated it; *e.g.* a continuous change of local sign in a series of tactual or visual sensations, or the observed sequence of sensations of a certain sort upon those of another particular sort called kinæsthetic. These experiences are only gradually accumulated in the lifetime of the individual; doubtless they are held to necessitate from the outset the assertion of external existence, but not, surely, to necessitate the assertion from the outset of it. For Prof. Stout distinguishes the psychologist's point of view from that of the individual whose experience he investigates; we psychologists know that there is an independently real external world, of which the body of the individual we are considering is a part; 'but we must avoid assuming at the outset that he himself possesses this knowledge. Our problem is to show how he gains it.' I took that to mean that a man begins with sense-experiences, and proceeds to apprehension later of external objects. If it does not mean that, is it held that from the outset there is experience both of sensuous presentations and of things in space? and if so, are sensuous presentations distinct from things in space? and again if so, and both are apprehended, what does it matter to the apprehension of the latter that the former should be 'extensive'?

I have no desire to carp. I am sure Prof. Stout would

agree that the use of controversy is to aid in discovering facts, not to score off one another; and my own views have undergone as radical a change on many of these questions as he confesses (p. 2, note 1) that his have done; though my dissatisfaction with psychology is of longer standing. I will try presently to discover the grounds of this; but I admit I have always felt great difficulty in adequately stating them to myself. First, however, as I have misunderstood Prof. Stout's general philosophical position, and as he has restated it in the present article, I hope he will let me examine it as he states it now. For it seems to me still obnoxious to some of the criticisms I made; and I do not know whether I have misunderstood it again, or there are flaws in it which he has not recognised.

My difficulties centre perhaps in his theory of presentations. Presentations are opposed to objects, though determining the thought of objects; they are mind-dependent, or sense-dependent; called once an aspect of matter, they nevertheless are matter as it is in itself; they do not 'as such' belong to the phenomenal order, and are not in phenomenal space, though, being extensive, they ought to be in some other space of their own; yet they are not disparate and discontinuous with the phenomenal order, but confluent with it, while at the same time the presentation-continua of different finite minds are confluent with one another in the all-inclusive presentation-continuum of an omnipresent consciousness. A presentation in my consciousness means for me or points to a thing or object in space, external to my body; but to any one else it is phenomenally knowable as a state of my brain. What is it of which all this can be said?

'By presentation,' says Prof. Stout, 'I mean whatever is or may be existentially present in consciousness as a toothache is present in the moment in which it is being actually felt, or as a sound-sensation is present in the moment of actual hearing, or as a colour-sensation is present in the moment of actual seeing. What is thus existentially present at any moment is, in the strict sense, experienced and may be called an experience,' and may be said to exist *in* the mind, in contrast to objects thought of, but not existentially present, and not experienced, though known through experience (*i.e.* presumably, through a presentation), which exist *for* the mind and not *in* it. The experiencing of presentations and the thought of objects are nevertheless correlated elements, which all knowledge includes in inseparable unity.

Now when I try to determine from this account what a 'presentation' or an 'experience' really is, there are two

things that should help me, the general description, and the examples. If I took the examples only, I should suppose that feelings of pain and pleasure, sounds, and colours, and anything else of which it could be said that it is just sensible, were meant: with this addition, that their being lasts no longer than their being sensed, they are *αἰσθήματα*, not *αἰσθητά*; and indeed we are told on page 13 that sensations, which do not seem distinguished there from sensuous presentations, are 'mind-dependent, inasmuch as they exist only in being experienced by some one'. I turn, however, to the general description of them as presentations, or 'existentially present in consciousness'. I suppose the word *presentation* would never have been chosen but for a half-acknowledged assumption that we are presented with objects, *i.e.* that there are things in space, of which our bodies are some, and that the things are before us; but that when (as an onlooker might know) a thing is before me, *i.e.* before my body, I experience a 'presentation' which is not the thing, nor is my experiencing it awareness of the thing; and the word is intended to signify what I thus experience, divested of all reference to the conditions under which the onlooker knows that I am experiencing it, and through which alone he can explain to me what the word is to signify. An attempt, however, to avoid appeal to these conditions in explaining its meaning is made, by saying that it is whatever may be existentially present in consciousness. But I cannot find any meaning in this expression, except by substituting for it a familiar word which it is apparently meant to elucidate, *viz.* 'sensible'; I am afraid it is often my fate, that terms in psychology, which seem meant to indicate with scientific precision important 'contents' or operations of the mind, seem only explicable through the familiar terms, whose looseness and difficulty they are to correct. I can find an instance from this article, in 'ideal construction,' which seems to me to mean imagining, or thinking, what the facts are which we do not perceive, and to suggest no discovery as to the psychological nature of those operations. But to return to the phrase 'existentially present in consciousness': in the first place, I am puzzled by the adverb; it does not express a way of being present; I suppose what is meant is 'present in the sense in which presentations are present in consciousness when they exist, and are not being merely remembered or thought of'; but as the experience of a presentation is being explained by contrast with the thinking of what is not actually experienced, this does not take us any further. Secondly then, what am I to under-

stand by 'present in consciousness'; 'present' has two proper senses, temporal and local. I presume a local sense is not intended; it is not meant that only that is a presentation which is in a certain space-relation to the body. The supposed local presence of the thing perceived which perhaps, as I have said, suggested the use of the word *presentation*, may explain also the choice of the expression 'present in consciousness'; but it would clearly be impossible to suppose that consciousness and a presentation are literally in the relation of a body and a thing present to it. Are we then to take the temporal sense? does 'present in consciousness' mean 'now in consciousness'? If so, I ask whether the temple of Diana at Ephesus, now that I think of it, is not now in my consciousness; will it be replied 'not existentially, because it does not now exist'? What then of Giotto's campanile? 'That,' it will perhaps be said, 'is an object of your thought, or exists *for* your mind, since you are thinking of it; but it is not present in your consciousness, since you are not now perceiving it.' Then 'present in consciousness' means 'being perceived,' *i.e.* being felt or sensed: since I do not think the incommensurability of the diagonal would be called a presentation, even while I apprehended it. And it might as well have been said at once that presentations are sensations, *i.e.* the sensible that exists only in the sensing of it.

But common sense holds that I can perceive in Florence the same campanile which I can think of here. A presentation, however, is opposed to what is thought of. The one is experienced, the other not: the one exists *in* the mind, and the other *for* it: 'the object of thought as such is whatever the mind *means* or *intends*; presentation is what exists in the mind, and is not merely meant or intended by it'. It is important to remember that a presentation is not an object of thought, nor *vice versa*, if we are to understand the theory; but how then can I think of a past presentation? The psychological explanation offered is, that I have a mental picture, which is a presentation, and this is related to, or means, or specifies the direction of my thought to, the past presentation, which is a presentation no longer. But what then is it, now that it is only thought of? Presentations are sense-dependent, and the sensing is over. Prof. Stout tells us that a presentation can be both sensed and thought of; but he does not admit that Giotto's campanile can be both sensed and thought of; on the contrary, what is sensed is a presentation, and what is thought of is an object in phenomenal space, and these are different the one from the other; the

former is physically and physiologically conditioned by the latter, and the latter is intended or represented, or in a peculiar sense presented, by the former. Does the same relation hold between the present mental picture and the past presentation remembered by its means? or if a presentation can itself be *in* consciousness at one time and *for* consciousness at another, why is that impossible to campaniles? and if it were possible to campaniles, might we not dismiss presentations? It seems to me as impossible on Prof. Stout's theory to think of a presentation as on Hume's to recall a perception.

The presentation is a specifying content which *represents* the object (p. 4); but we are told this is a special and primary form of representation. It does not represent the object as a map represents a country; for (if I understand rightly) it is already involved in the awareness of the object, say the map. In the awareness of the map are inseparably united having a presentation, and thinking of an object—*viz.* a map—which is not a presentation; and this object might be said to be presented in the sense that my thought is directed to it rather than to any other object by the specifying content of the presentation which is in another sense presented. But, as it would expose him to a charge of equivocation to use 'presented' in these two senses, Prof. Stout says that the object is represented; though he has to use 'represented' in two senses, for the map-presentation does not represent the map-object in the sense in which the map-object (or is it the map-presentation ?) represents the country.

Reduced to choose between a double use of 'presenting' or of 'representing,' I have to discover what actual third relation is intended by reflecting on the facts; and I find myself unable to discover any. I think I understand what is meant, when a map is said to represent a country; and when the map or the country is said to be presented to me, I think it is meant that it is before my eyes, and I see it. But this attempt to explain psychologically what is meant by seeing that which is before my eyes seems to me involved in confusion.

For so far as I can see, it leaves me with an order of presentations like Hume's impressions, and a material order like Locke's, with no account of their relation beyond saying that the former mean the latter, and with this peculiarity, that the impressions are 'matter directly apprehended as it is in itself'. The view that 'the mind starts with a separate knowledge of its sensations only, and subsequently passes by a distinct and additional process to the apprehension of

external things '—a view which I had thought implied in much psychological writing—Prof. Stout expressly repudiates ; ' all knowledge includes in inseparable unity the experiencing of presentations and the thought of objects '. The proposition repudiated is not, indeed, precisely that which I had ascribed to ' psychology ' (p. 305), for I spoke of starting with sensations, not knowledge of sensations ; but I suppose it is now meant that from the outset we do both experience presentations and think of objects, though nothing is said to show we might not sometimes experience presentations (*e.g.* pains or mental pictures) without thinking of objects, even if we cannot think of objects without experiencing presentations. The power to think of objects on the occasion of experiencing presentations it is not attempted to explain ; but I do not complain of that. Only, if the presentations are one thing and the objects another, why does ' apprehension of this world as a whole of parts coexistent in space ' seem ' dependent on the extensive character of certain presentations ' ? (p. 2). When I smell a certain scent, I think of a violet ; the violet is a whole of parts coexistent in space ; must the scent be ? Does not the passage just quoted really imply that I can only learn what the spatial nature of objects is by studying that of presentations ? Else, if the presentation is merely the necessary *prius* of perceiving the extended thing, why need it be extensive ? We ordinarily suppose we learn about things by perceiving *them* and by thinking about *them ;* but if we perceive (or should I say experience ?) presentations, and think about things, we must learn the nature of extended things by studying extensive presentations. This would be possible if they were like ; but if they are like, and we can experience presentations, why may we not experience things ? and again, why may we not then dismiss presentations ? But are they like ? ' An idea,' said Berkeley, ' can be like nothing but an idea ' ; and it might be said with equal force that a presentation can be like nothing but a presentation. And then, why need presentations be extensive ?

I cannot make out what relation is supposed to hold between presentations and objects. Objects ' transcend the existence ' of presentations ; they ' persist, change, and interact, independently of the coming and going of sensuous apparitions in the consciousness of finite individuals ' (p. 8). They ' belong to the phenomenal order ' to which ' sensuous presentations as such do not belong ' (and it is not suggested that sensuous presentations can belong to it *as* anything else), and they fully occupy phenomenal space (p. 12) ; the

one universe of which we all apprehend fragmentary parts through different presentations includes them all (p. 5). Nevertheless 'we must set aside any view which regards this realm of independent existence as radically disparate in kind, or as discontinuous in existence with the presentations through which we, as thinking beings, are conversant with it. Such assumptions are irreconcilable with the ineradicable presupposition of ordinary consciousness that what is immediately given in sense-experience is itself matter, and not merely a symbol of matter' (p. 8). On the next page Prof. Stout writes that 'I agree with common sense in affirming that what is existentially present in consciousness in sense-perception is matter directly apprehended as it is in itself,' though it is and is thought to be 'partial and fragmentary'. Now what is existentially present in consciousness is, *totidem verbis*, the definition of a presentation. So, though we all rightly suppose that what is immediately given in sense-experience is matter, what is thus immediately given is also presentations. The position is to be saved by holding that presentations are neither disparate nor discontinuous with material objects, or that the 'realm of material existence'—to quote a metaphor which I will not attempt to interpret—is 'confluent with our sense-experience' (p. 9); and thus the individual has in his own presentation-continuum 'a partial glimpse of the existence and nature of matter as it is in itself' (p. 12). I do not know what continuity between presentations and material objects may be; for it cannot be spatial continuity, since presentations are not in phenomenal space; but as to their not being 'radically disparate in kind,' if they are not, I cannot conceive what is. For presentations are sense-dependent, existing only as they are sensed in some individual mind, objects persist, change, and interact, independently of the coming and going of presentations; objects gravitate, and presentations do not; objects are in phenomenal space, and presentations are not; objects are part of the one universe apprehended by all, and the presentation-continuum in one finite mind is distinct from that in another.

Let it, however, be granted that presentations are comparate (if I may so express the contrary of disparate) and continuous with material objects; another view of their relation remains behind. For Prof. Stout's general position 'involves a thorough-going distinction between matter as it is in itself and matter as it is phenomenally known'. Now if this is so, I would point out that the same thing may therefore be a presentation, and be phenomenally known; for matter as

it is in itself, and matter as it is phenomenally known must be the same thing in two aspects; but matter as it is in itself is what is existentially present in consciousness, and what is existentially present in consciousness is a presentation; so that what is a presentation is in another aspect phenomenally known, in spite of the contrasts just enumerated, which seem to show the contrary. Here, however (p. 12), presentations are called 'an extremely partial and fragmentary *aspect*[1] of matter'. I do not understand how a partial and fragmentary aspect of matter can be also matter directly apprehended as it is in itself; how can an aspect of anything be what it is an aspect of? But anyhow, what seems to be meant is that the same thing can be either sensed or known phenomenally, though in sense and in phenomenal knowledge I apprehend different aspects of it. Sense-perception then should be perception of the thing which I can know phenomenally or think of: not of a presentation, which—unless in remembering it—I cannot think of, and which I can hardly be said in remembering to know phenomenally, for it cannot become a phenomenal object. When then I have that in my presentation-continuum which I call Giotto's campanile —or should I say, the presentation of Giotto's campanile? —what is it which I might know phenomenally, and of which the presentation is a partial and fragmentary aspect? Surely, one would suppose, it is something in space, made of divers curiously wrought marbles: granting that what is present to me in consciousness is a portion of matter *per se*, it is as this that the same matter would be known phenomenally. This at any rate it is of which *I* suppose that I get an aspect in the presentation. But this portion of matter *per se* must be capable of being phenomenally known to an external observer as a 'physical object'. One would expect, then, that it would be known to the external observer as the same physical object, as which it might be known to me— as something in space, made of divers curiously wrought marbles; for matter as phenomenally known is contrasted with the aspect of it which directly enters consciousness, and of what can the presentation in my mind be called an aspect but of the campanile in Florence? This one would expect; but we learn in fact, that my sensuous presentation is phenomenally known to an external observer as my brain, so far as implicated in the process correlated with my presentation (p. 12). Now, what I know phenomenally is, I suppose, the object I think of; and when the experiencing

[1] Italics mine.

of a presentation is united, as we are told it inseparably is in all cognition, with the thought of an object, the object is that to which the presentation specifies the direction of thought. But my brain-process is certainly not that to which the presentation in me of Giotto's campanile determines the direction of my thought. Phenomenal knowledge, which is said to be a 'thought-construction on the basis of sense-experience,' did not lead Aristotle to connect sense-perception with the brain at all; how then can he have known as brains that of which the aspect present in other men's consciousness was presentations? Yet how, if Prof. Stout's position here is right, can I know that of which other men report to me the presentational aspect as anything but brains? But the world so far as I have not sensuously perceived it is not phenomenally known to me through my thought-construction as consisting of brains, except to a very small extent; while if others in their thought-construction put my brains where I put Giotto's campanile in mine, a mutual understanding would be too much to expect.

No doubt we may come to believe that whenever any one 'has presentations,' there is a correlated process in his brain; and this is the theory or fact for which Prof. Stout is trying to make room. But it has no necessary connexion with his theory of presentations, and hardly squares, as we have seen, with his previous exposition of his theory. He correlates the brain-process with the presentation as with what is experienced; but it is as easy to suppose it correlated with the experiencing of what is not a presentation. Indeed when he asks 'What is the phenomenal counterpart of sense-experience?' one would suppose sense-experience to mean experiencing; for surely only in this sense is the counterpart a brain-process, and not (say) a campanile. Moreover, there is no more reason to say that a brain-process is the phenomenal counterpart of a man's sense-experience than of his phenomenal knowledge; but phenomenal knowledge here must mean 'phenomenally knowing,' not what is 'phenomenally known,' since else a brain-process will be the phenomenal counterpart of a brain-process; so that, again, sense-experience should mean experiencing. But if it *is* the correlate of the experienced, not of the experiencing, and what is experienced is a presentation, then surely the position implied must be, that there exist things in space, some of which are living bodies, and by the action of others on these is produced an experience of states of consciousness called presentations, and these bodies, living or otherwise, rather than the presentations they produce, would constitute

matter *per se*. I do not think Prof. Stout holds this, but only that his words imply it; anyhow the whole passage seems to me to illustrate the danger, spoken of on p. 466 of my previous article, of using words like 'experience' or 'presentation' without a genitive after them.

But another puzzle awaits us. My presentation-continuum is confluent not only with the realm of external existence; it is also 'continued beyond itself into a whole of fundamentally like nature which transcends and includes it' in which it is confluent with the presentation-continua of other finite individuals. This whole presentation-continuum is experienced by an 'omnipresent consciousness' (p. 13). Is it the same as that other whole, the material universe, with which my presentation-continuum is comparate and continuous? I cannot conceive how the answer can be yes, for then the parts of a presentation-continuum would *be* the parts of the 'realm of external existence,' and presentations would *be* phenomenal objects. But if the answer is no, I am equally at a loss to conceive how my presentation-continuum can be confluent with both wholes. If I may say what seems to me to have suggested Prof. Stout's statements, it is this. He starts from a contrast between the knowledge we have of things when we are actually perceiving them, and that which we have when we are only thinking of them; the latter he calls phenomenal knowledge, a thought-construction on the basis of the former; its object is the phenomenal order, that of the former is matter as it is in itself. The omnipresent consciousness is present to everything, in the sense in which I am present to the things I am perceiving; *i.e.* it always knows everything in the best and direct way, of perceiving it, not in the inferior and indirect way of thinking about it. I pass the difficulties involved in thinking out a perceiving which is not limited by a particular standpoint. But I must urge that on such a view what is perceived is the very thing which is also thought of: that it is an object in space, not a presentation —not even an extensive presentation—in the mind: and that to make it a sensuous presentation, sense-dependent, is to make ἐπιστήμη to be αἴσθησις, and the ἐπιστητόν an αἴσθημα.

I am afraid that criticism has taken longer than I intended, and I have still to try and put more generally what it is that troubles me in common psychological procedure. Prof. Stout says it is a mistake to suppose that psychologists as such have any philosophical principles in common, and in a measure I assent; yet he himself states that they agree so far as that a prejudice is 'fashionable' among them against 'mixing Psy-

chology with Metaphysics'. Now so long as this is the case, I think there are likely to be certain common philosophical principles implied in their psychology, however various are the principles they hold when they leave the psychological for the philosophical 'point of view'. And this is because they try to treat the soul, or the mind, as the subject-matter of a science which can investigate it in the same sort of way as physiology does the body, or geology the earth's crust. If any one objects, they say that from another point of view the soul is something different; but the points of view are not adjusted, and it is not explained why, if the other point of view is the true one, the psychological should ever be taken. Why for example should William James tell us that you cannot really give a physical explanation of mind, and then that association of ideas is fundamentally a fact of neural habit? And why does Prof. Stout think that in allowing himself 'to be influenced by the fashionable prejudice against introducing general philosophical discussion into a text-book of Psychology,' he has exposed himself to misunderstanding? Is it because for lack of the discussion the principles tend to be undetected, or because its introduction would have involved a modification of the psychological statements? I am not sure which is meant; but I do think that much psychology implies principles which are false; if they are known to be false, I see no use so far in that part of the psychology; if they are thought to be true, I think that is often due to the assumption of which I have already spoken, that the soul or mind can be studied in the same way as material things.

Psychology, it is thought, is to study scientifically the development of individual minds; there must then be that which develops, and there must be conditions under which the development occurs; and we want to know the laws displayed in the process. Various views are taken, of course, on these points. There have been maintainers of 'psychology without a soul,' who thought that 'perceptions' or their equivalent somehow emerge or occur, and that through the influence of these one on another the adult consciousness arises; and sometimes the emergence of these perceptions was connected with physical events, which for this purpose were treated as conditioning the occurrence of perceptions, though at another time 'physical event' was but a name given to certain 'contents' of consciousness whose formation the psychology was to explain. Or there is James's doctrine, of a stream of consciousness as the psychologist's datum, which is not a stream, but a series of total pulsations, each somehow inheriting part of the nature of its predecessor; and development takes

place by distinction and differentiation within this or these, or again within a 'presentation-continuum'. But some admit that there is some sort of unity, which is conscious, or has states of consciousness, and persists through the process of development; though again the phases of the development are sometimes connected with psychical conditions only, and sometimes with physical conditions, the right to appeal to which belongs to the psychologist when he takes a different point of view to that from which he can apply his psychological theories to himself, though he somehow takes both points of view at once when he applies his psychological theories to another. But whatever be the details, so long as psychology is treated like a physical science, an effort must be made to connect definite sorts of psychical result with definite conditions, physical or psychical, according to laws. It is by no means necessary that these connexions should be intelligible; in the inductive sciences of nature we do not see why the change a in a subject x should occur whenever another change b occurs in it or in a different subject y; but we accept such connexions because we believe that there are general principles exemplified in the observed facts, and we can find no others which the facts seem to exemplify. No doubt in physics, where a mathematical treatment enters, there is something more than this, and hence the desire to show that chemical or biological processes are at bottom those of physics; but meanwhile we have to be content with accepting as laws much which is very imperfectly understood (and even in physics this is so in large part). Now in such a mode of explanation the occurrence of the required conditions is all that determines the result; definiteness is given, if only we can state precisely what the conditions are, which determine what result; and if we can calculate (*i.e.* ascertain by thinking), from a knowledge of the several conditions determining divers results severally, the different result that would be determined by a combination or modification of such conditions, then we can the more freely use our knowledge of these laws for purposes of explanation or prediction. This then, I believe, is the sort of ideal which psychology as a natural science sets before itself, inherited in large measure from the days of the 'science of mind,' which proceeded thus, and was thought to be the last word of philosophy or 'competent thinking'. But there are two difficulties. In the first place, the psychical conditions are not found to be ascertainable. Of course in physical sciences we often have to infer from the observed results the conditions which have given rise to them; but then we can state these conditions

with some precision—there must have been a glacier covering so much ground, which would therefore have at least such a mass, and hence exert at least so much pressure: there must be such a bacillus present, which is destroyed by such a drug: and so forth. And the early associationist psychology did seek, in the occurrence of determinate simple 'ideas,' for conditions from which results in the way of 'complex ideas' could be deduced, at least roughly, according to the laws of their combination, or power of suggestion. But this rather crude procedure is exploded; instead of it we have theories that at least seem to formulate facts more successfully, such as Prof. Stout's of psychical dispositions. My criticism here is that I think psychology produces an illusion on the unwary reader, of making an advance towards a scientific understanding of the facts, when it has in large measure only found new names for them. For a disposition cannot be observed directly, as Plato long ago pointed out of a δύναμις, but only through considering ἐφ' ᾧ τε ἔστι, καὶ ὃ ἀπεργάζεται; and from considering these, we cannot so determine the strength or other character of a disposition, as to make deductions of any accuracy; dispositions are an explanation only in the measure in which faculties are; and we do wrong if we regard them as working together towards a resultant in the soul like forces that act upon a body. For the whole soul comes into the account; and that is something which does not behave as if it were an aggregate of parts interacting according to their several natures. The action of a particular disposition is modified not merely by the action of the rest, but by that of the soul as a whole or unity; while in a mechanical system the action of a particular part can be modified only by that of the other parts. But then, we can never at any time so know, from what we have observed of its activities, the nature of the whole soul, as to determine therefrom how it must act under fresh conditions; its nature, so far as we are concerned, is as it were inexhaustible; and scientific explanations of its behaviour are to that extent precluded. I think Prof. Stout would very likely accept this, and I do not mean to depreciate psychological analysis. But I come to the second difficulty. So far it might be said that the method of psychology is right, though its results are only approximate. It rightly seeks to ascertain the nature of the soul from its observed behaviour, and thence to deduce what its behaviour would be under other conditions, though it cannot ever ascertain that nature completely, and so its conclusions have a large margin of error. There is however a most important activity of the soul which

cannot be explained at all as the result of pre-existing conditions, *viz.* the activity of its intelligence. Thinking and knowing are not mechanical processes. I do not say that we cannot to some extent assign the conditions psychical or physical under which they occur in the individual mind. The young Walter Scott noticed that his class-mate thought best when fiddling with his coat button; without attention and retentiveness we should none of us know anything. But such observations do nothing to explain the process; the whole process still remains, as something which has an intelligible nature of its own, not mechanical. And the soul, or the mind, thinks and knows. How then can it be right from any point of view to treat it as the subject of a natural science, a thing to be investigated as plants or mountain ranges are investigated, by seeking to connect its subsequent phases with its antecedent phases or other conditions according to laws: which is what I mean by treating it mechanically?

In rational thinking, so far as it occupies time, I pass from the apprehension of one fact or facts to the apprehension of another. But it cannot be said that I apprehend the latter *because* I apprehended the former, in the sense in which an electric bell rings because I press the button. So far as I think irrationally—if the expression may be allowed for transitions in thought which do not express my rational nature—it might be said that I think of one thing merely because I thought of another. This is what happens in the so-called association of ideas,[1] which *is* a mechanical process, and for that very reason not rational, though not therefore necessarily anti-rational. And the necessity with which the sound of a bell makes a man think of his dinner is a fit subject for the investigation of psychological science. But the development of a geometrical demonstration is something of a different kind; and so also is the development of our apprehension of space-relations. If the development of a geometrical demonstration be supposed explicable in the same way, even from the 'psychological point of view,' it would follow that there was nothing to choose between the thinking of the geometer who discovered that a construction produced a square unequal to a given circle, and that of him who thought it squared it. The two conclusions would be results equally determined by the nature of their minds and of the opinions from which they started, as a fizzle and a flare are results equally determined by throwing a live coal respectively

[1] I owe the first understanding of this fact to Prof. J. A. Smith.

into water and into petrol. And it is no use saying this is only so from the psychological point of view. From that point of view we presumably see how a mind really works. But a rational mind does not really work that way, since if it did it would work in principle like an irrational one. And if it *be* said that it is only so from the psychological point of view, that implies that when any one with a rational mind takes the philosophical point of view he sees that it is not so; but his seeing that it is not so is itself a piece of rational thinking on his part, which he cannot regard from the psychological point of view without again discrediting what is to accredit his rational thinking; if one piece of rational thinking then cannot be regarded from the psychological point of view, how can another? And similarly with the development of my apprehension of space-relations: if my apprehension is treated as a mere psychological result, there is no sense in asking whether it is true. It might be shown that it would not occur, or would not occur so readily, but for certain sensuous changes, but no explanation of the way in which sensuous elements of divers kinds and series come according to laws to be integrated or associated is an explanation of space-perception.

The difference between a rational and a mechanical process is what makes the so-called psychology of logic, as I cannot help thinking, of such little value. The most the psychologist can do is to determine under what conditions a man will or will not think; but the nature of the process of thinking would be falsely conceived as the determination of a psychical change from preceding conditions in the soul according to laws. What then, it may be asked, is this rational process of which you speak, if it cannot be displayed as like other processes, which the sciences study? I find it difficult to answer; but I do not feel sure that this is wholly my fault. For there is nothing else like it; the only way to understand it is to reflect on it in oneself. When I try to describe it, I am at once in danger of assimilating it to a mechanical process, because that is how I am accustomed to explain processes; but here that is wrong. Yet it is often found in psychology, *e.g.* in Hume's theory of belief, in any theory of memory which thinks memory can be explained by mental images, in the comparison of a 'general idea' to a compound photograph, in the explanation of the apprehension of necessary connexions through inseparable association, in the doctrine of *idées-forces* so far as this is used to explain anything rational: it is of course a different matter to explain by it irrational or non-rational action, as I have implied above in

saying that association may explain non-rational transitions in thinking. Perhaps, however, I may illustrate the reality of the difference between a mechanical and rational process by a reference to Dr. Archdall Reid's recent and very interesting book on *The Laws of Heredity*. He thinks that the emergence of mind—of feeling and intelligence—is explicable in the same way as that of any physical feature of organic beings; 'throughout the process was one of increasing adaptation to the environment' (§ 612). But how do feeling and intelligence help? Certain movements occur under the stimulus of feeling; but the feeling is correlated with a physical process, and that might just as well provoke the responsive movement direct. It is the same in regard to thinking. Either the process of thought has a structure like that of a physiological process; the definite elements of one stage determine definitely the elements of the next; and in this case it can be correlated (as Dr. Archdall Reid apparently thinks it is) with a physiological process, and its intercalation will be quite useless; the same motor response could have been secured physiologically without it: or else, if the process is not useless, it is because it has a non-mechanical structure; because in thinking rationally we are doing something rational, which a machine cannot do, and which is necessary if ends are to be sought, not merely results produced, if action is to be intelligent and not mechanical. The intellectual activity, indeed, by which I discover what is best to be done, though it often involves thinking in which I follow out the connexions of facts, and which, as we have seen, cannot be explained psychologically, yet is not, it would seem, wholly of that kind. But unless no judgment on such a question is true, but only a necessary result in the mind of pre-existing conditions, as twitching is of tickling in the body, it too must lie beyond the province of psychological science.

But is there then no such thing as psychology? Certainly there is such a thing; but if I were asked what it really is, I should say, not a science, but a collection of more or less detached inquiries, of the results of which philosophy must take account. There are for example inquiries into 'double personality' and kindred puzzles, which must affect any theory of the real nature of the individual soul or self; there are experiments about association-time, reaction-time, etc., which help to explain why one man's mind works quicker than another's, but no more throw light on the nature of thinking than the determination of the duration of the crotchet explains the beauty of music; there are more definitely psycho-

physical investigations, *e.g.* into brain-localisation, which may have therapeutic value; and of course any facts about the relation of what is mental to what is cerebral are important to a theory of the soul, as of a knower belonging somehow to the same whole with the known. But psychology as a particular science about one sort of known thing, *viz.* individual minds, parallel with sciences about other sorts of known things, which shall explain all the processes of individual minds, and no more require us than the other sciences do to raise the philosophical question of the character of that whole to which belong both nature and mind, in such peculiar interconnexion—this is the psychology which I mistrust. Its expounders often defend it by saying that they occupy in it a provisional point of view; from the higher point of view of philosophy the account must be re-written; though some, no doubt, really think the psychological point of view correct. Yet in other sciences I do not notice this tolerant indifferentism. For example, there are biologists who think that the processes of organic life display unconscious purpose, and that we can never know in mechanical terms how the bones do grow in the womb of her that is with child. They are far from acquiescing in a mechanical theory of life as a tolerable point of view for science, but they say that it is false; and the supporters of the mechanical theory are equally against compromise. But the natural sciences, it may be said, are all in difficulties about their first principles. Yes, but so far as their students acknowledge this, they regret it; and, if they could start from more satisfactory principles, would do so; and at least they think that they are dealing with a *phenomenon bene fundatum, i.e.* that their theory of the relations of their facts could as it were be translated into terms of a truer theory without internal distortion. But psychologists give, it seems to me, an account of what the soul is, and how it develops and behaves, which could not be so translated. Suppose it could be shown to be true that our spiritual activities so influence what takes place in our bodies, that their movements are not explicable solely from the laws of motion; surely the physicist would not go on talking as if all motions of matter were explicable purely physically from a physical point of view, though he might say that, as he could not ascertain and measure these spiritual agents, he was bound to ignore them, and leave his results thus far inaccurate. But his physical point of view would still be the best he could get for the realm of facts he was dealing with. The psychological point of view, if it is distinct from the philosophical, is not the best for the facts the

psychologist deals with. Psychology should give an account of the soul, and an account of the soul must be philosophical —or, if it is preferred, metaphysical; for the activities of the soul include knowledge, and intelligent action, and these are not explicable like the behaviour of material things which the sciences investigate, while they are connected with what occurs in a particular material thing, the living body, so that the soul cannot be understood till we understand the whole to which bodies and souls belong, and a theory of that will be metaphysical. What is the use therefore of keeping metaphysics out of psychology, unless psychology is a name merely for the investigation of a number of special questions, whose results a more metaphysical inquiry into the soul is to utilise? and even they will very likely be found to have made some questionable assumptions. But most psychology seems to me still to inherit the legacy of those who tried to build up the mind out of perceptions, ideas, or presentations, mixing it, it may be, with views that imply that the mind knows things which are not *in* it, in the sense of being dependent on its perceiving them for their existence, but not revising the 'way of ideas' as these views require. I have tried to show that such a doctrine of presentations vitiates the position which Prof. Stout has expounded. No doubt he derives much of it from Prof. Ward. I admire the tenacity with which Prof. Ward strives to hold to one 'point of view,' but I think such a soul as he seeks to trace the history of could never know the world he thinks he knows. I admire Prof. Stout's work also, but it leaves me dissatisfied: and that because he will hold it necessary, and possible, to treat the soul as the subject of a particular science. I am sure my dissatisfaction is shared by a good many people interested in philosophy, and better able to pierce to the grounds of their dissatisfaction than I am. Indeed I am conscious how defective the foregoing statement has been. But to express it for what it is worth may provoke others to do it better; and perhaps it is due to Prof. Stout to show that my criticism of a chapter of his was not a mere personal attack, but meant to illustrate the faults, I will not say of a school, for psychologists are of many schools, and I am aware how very general my attempted characterisation of their procedure is: may I say, of a great many writers who seek to construct, and think that philosophy should be approached through, a psychological science?

II.—THE HUMANISM OF PROTAGORAS.

By F. C. S. Schiller.

Mr. C. M. Gillespie's interesting article in No. 76 is a valuable contribution to the important question how far the absolutism of Plato can be regarded as a successful reply to the relativism of the fifth century B.C., and marks a great advance in the discussion. It is highly significant that an academically trained writer should undertake to inquire into the real position of those who have had the honour to be misrepresented by Plato, and still more so that his inquiry should result in so extensive a revision of what has commonly been believed. Mr. Gillespie in fact reduces the dimensions of Plato's victory over relativism to quite moderate and reasonable proportions, and evinces an eminently sane and sound judgment on philosophic controversies which posterity has hitherto been far too content to view as mirrored in the *mirage* of Platonic eloquence. A less exacting zealot for the whole truth than myself would therefore doubtless profess himself satisfied with Mr. Gillespie's revision of the tradition. But the issue is so important and Mr. Gillespie has associated me with it so closely that I can hardly decline to comment on the new situation.

In my previous discussion of the topic in *Studies in Humanism* (ch. ii. and xiii.-xv.), *Plato or Protagoras ?* and Mind (No. 68), I had attempted to disestablish the naïve belief that Plato had for ever disposed of all relativism in the *Theætetus*, (1) by drawing attention to certain neglected *facts*, and (2) by constructing a *theory* which would give as reasonable an explanation of them as the scantiness of the whole evidence permitted.

The point of departure for this theory was the remarkable fact that it is impossible to find in the *Theætetus* any adequate and complete confutation of the speech which 'Socrates' makes on behalf of Protagoras in 166-168. That this difficulty exists was admitted by the high authority of Prof. Burnet in his review of my pamphlet,[1] and is con-

[1] No. 67, p. 422.

firmed by Mr. Gillespie, who admits that "as against the doctrine that man has no *interpres naturæ* except himself the (Platonic) argument has, of course, no force" (p. 490 *s.f.*). It may therefore be taken as conceded fact. It must moreover be taken in connexion with other facts about Plato's criticism of Protagoreanism, which I have enumerated in *Plato or Protagoras ?* and in No. 68 (pp. 523-524), concerning the way in which an understanding of Protagoras's philosophic importance grows upon Plato in his later dialogues, and in connexion with the difficulty Plato perceives (in the *Theætetus* itself) about avoiding Protagoreanism, unless a satisfactory theory of error can be constructed.[1] There exist also ancient traditions about the persecution of Protagoras under the oligarchy of the Four Hundred in 411 B.C., and the destruction of his books by the Athenians at the instigation of Pythodorus, and of his consequent flight and death, and it harmonises well with these traditions that none of the subsequent Greek philosophers seem to have any first-hand knowledge of Protagoras, and that Plato seems to be the ultimate source of all their information. Lastly, it is a curious fact that although the dicta about 'man the measure' and the gods are universally assigned to Protagoras, our knowledge of their context is a total blank, and there exist in consequence great differences of opinion as to their real meaning.

It is clear, therefore, that the materials for reconstructing the authentic structure of Protagoreanism are extremely scanty, and it follows that any theory which is adopted must rely largely on its intrinsic coherence and plausibility and the facility with which it covers the facts.

Now the particular theory I ventured to propound starts by suggesting that the philosophy of Protagoras was the outcome of his life-long experience as a teacher and observer. No one could wander up and down the Greek world in the fifth century B.C. without noticing the discrepancies between the morals and mythologies of the different States,[2] and the enormous variations of individual opinion, taste and even sensibility.[3] Nor could he ignore the manifold signs that the popular recognition of this same variability of human affairs was leading to a widespread breakdown of customary morality, and producing the social *débâcles* so graphically described by Thucydides. As a thoughtful man Protagoras would surely try to understand the causes of a moral de-

[1] *Plato or Protagoras?* p. 25.
[2] *Cf. Studies in Humanism*, pp. 311, 342-343.
[3] *Ibid.*, pp. 316-319.

cadence which he was professionally bound to cure. As to these causes he appears to have come to different conclusions in the case of morals and of theology. The contradictions of current mythologies were so great that theology was hopeless; it was no use wasting time in trying to find out the truth about the gods. But the moral problem seemed more soluble, if one had the courage to face the facts, which were paradoxical enough. In point of fact what constituted the moral order everywhere and enforced it on the individual, was social opinion, and in a sense therefore morality was always *νόμῳ*, a matter of social convention. Nor were there any definite or even visible limits to the authority of society. Anything might be ordained as *καλόν* or *δίκαιον* and the queerest customs did in fact prevail. Yet it was equally indisputable that every individual had his idiosyncrasy, and that no amount of social pressure could enable him to see things in any but his own individual way. It was as useless, for example, to insist that the short-sighted man must see as clearly as the keen-sighted, or that the colour-blind must see as red what he saw as grey, as to persuade the sick man to taste as sweet what in fact tasted to him bitter.

How then could these two facts be rendered compatible? It would not do to declare either that the social order or that the individual's judgment was infallible. If the one were, progress, if the other, education, would become impossible, and in the second of these at least Protagoras was doubtless a fervent believer. At last Protagoras found a way out of the difficulty. He announced that man was the measure of all things. This was to assert man's spiritual autonomy, both against the physiologers and against the theologians, and recognised also, in a thoroughly democratic spirit, the autonomy of every individual citizen. But the principle had to be formulated with discretion. So far it was no solution of the conflict between social opinion and private judgment; for though in different references it vindicated both, it did not resolve the cases of conflict between them. If it was merely democratic and merely asserted that one man's judgment was as good as another man's, it might easily prove subversive, and aggravate the spiritual unrest it was designed to heal, besides reducing to absurdity the honourable professions of the educator and the statesman. Clearly, moreover, no one in his senses could seriously contend that one man's judgment was in every respect as good as another man's. It is certain, therefore, that Protagoras cannot have stopped

short with the bare Dictum. He must have sought a way of testing and standardising the 'measurings' of different individuals, in order to give to his dictum any scientifically and socially applicable meaning at all. But if he sought, is it not possible that he found? Yet if he found a solution, where shall *we* find it?

Surely the obvious place to look for it is in Plato. Only the stupidest or most unscrupulous controversialists succeed in utterly obliterating the meaning of the views they controvert. And who will call Plato either stupid or unscrupulous? In this case, moreover, what has a strong *prima facie* claim to be part at least of the missing context stares us in the face. Plato gives us an eloquent defence of Protagoras, which professes to be authentic, which conforms to every criterion of authenticity we can apply, which makes good sense, and is internally coherent. If then we are willing to accept the Protagoras-Speech in the *Theætetus* as authentic, we shall have to dismiss as groundless all speculation as to what the *Homo Mensura* might have meant in the abstract, and to recognise that Protagoras's actual expedient for giving a practical meaning to his dictum is known. It consisted simply in this, that though he admitted that each man's truth was '*true*' for him, and remained so however much his opinions changed, he did *not* infer that all 'truths' were equally '*good*'. *I.e.* while he admitted that the psychic self-evidence of personal experience was irrefragable, he strenuously disputed that this fact equalised the *value* of all human experiences. The judgments and perceptions of some might yet be immeasurably 'better' than those of others, and these would be the true experts, who could guide the erring steps of communities and individuals. Among such experts Protagoras had good reason to include himself.

The Speech thus answers the three main difficulties which the Protagorean dictum set itself to solve, and might seem an ample context to one to whom the dictum came merely as a floating paradox. But it can hardly be denied that it forms rather a scanty setting for so big a principle, and that scientifically it suggests questions which it does not answer. How is the conflict between a man's successive 'truths' to be interpreted? Is it enough merely to suggest a practical escape from facts which seem so subversive of the belief in the consistency of truth? If one view, though not 'truer,' can be 'better' than another, in what ways can it be ascertained *which* is the better view? How can a view's 'goodness' influence its 'truth'? Why is it that the 'good' can thus make and unmake the 'true'? Again, do not men

differ as much in their views of the 'good' as of the 'true'? Is not the subjectivity of individual judgments even more apparent here, and the difficulty of educing objectivity just as great?

The silence of the Speech leaves us to answer by conjectures. Did Protagoras really draw a hard and fast line between the 'true' and the 'good'? May he not have had an inkling that the 'true' was a value too? If so, would he not require a common method for passing from individual judgments to social conventions in both cases, and for evaluating divergent customs? Was he not empiricist enough to appeal to the experience of the differential *consequences of acting* on the various 'truths' believed, even if he was not biologist enough to account for the selection and objectivity of the 'better' truths by their greater survival value?

It is unlikely that none of these questions occurred in any form to the mind of Protagoras. But, if they did, it is clear that his answers are not recorded. The Speech therefore may be authentic, but it is not complete, Protagoreanism. Why is it incomplete? Is it the fault of Protagoras or of Plato? The former could hardly have avoided reflection upon some of the further problems which his position (as stated) entailed, whereas the latter was not compelled (or perhaps was not able), to make his exposition complete. But if Plato knew the complete doctrine, the mere fact that he is reporting it does not excuse its incompleteness. Surely he was not cramped for space and might have given us more of the reasons, and less of the moral indignation,[1] of Protagoras. The Speech reads like that of an injured man, too angry to state his case in full.

It begins and ends with rebuke, and only the centre of it is exposition (166 D-167 C), incisive and to the point, but manifestly not the whole story. But Plato is no doubt capable of any amount of the dramatic art he condemns so harshly. And also perhaps of mutilating and misrepresenting an opponent's position? No, that must not be said. What then? Why did his Speech leave so many unsolved questions? Shall it be said that he extracted only the essential points? Was Plato, then, so lacking in perception that he did not see the importance of what he had omitted? Shall it be said that he misunderstood, or did not know the whole? But surely he, if any one, was in a position to know what Protagoras had really meant. Aye, he, *if any one;* but *did* he know?

This suggests that we have so far strangely omitted to

[1] 166 A-C, 167 D-168 B.

inquire how and when Plato may be supposed to have got to know the doctrine of Protagoras. Did he read his book as a boy when it first came out, and before it was suppressed? That does not seem very probable. Or did he read it late in life, just before he composed the *Theætetus*, and had he until then known Protagoreanism only from hearsay? That again does not sound probable. If, when he composed the *Protagoras* he was acquainted with its hero's books and had grasped the ethical significance of his doctrine, why does he betray no knowledge of the *ἄνθρωπος μέτρον*? And why does so mature a student and so expert an analyst not give us more of the Protagorean reasonings, when he does show knowledge of their existence? Because his eyes were prejudiced by the (? ignorant) attack on the Dictum committed in the *Cratylus?* If that is more credible, it is hardly more creditable. And if the Speech is Plato's *amende honorable*, why is it prefaced with scurrilities about swine and dog-faced baboons quite in his earlier style?[1] And why does not the Platonic reply thereafter ignore his earlier misconceptions, stick to the argument of the Speech and pulverise that? It does the very opposite. Again, why hesitate so long to strike the deadly blow, and take refuge in all sorts of irrelevancies, digressions and inaccuracies? And, above all, why ignore in your confutation the very gist of the reply, the very pertinent distinction between truth and value, by which Protagoreanism had seemed to escape from its vulgar travesties? Why leave it in doubt whether your confutation is relevant at all?

If Plato knew and understood it all and possessed a crushing refutation, his tactics are passing strange. But is it conceivable that his *knowledge* was imperfect? Well, of course it is, if we do not arbitrarily reject the story of the downfall of Protagoras. What if the oligarchic persecution did in fact successfully suppress the written records of the pestilent enlightenment of the chief instructor of the Periclean democracy? The number of copies of the dangerous book would be small, and they would mostly be in the possession of persons in the best society, sympathetic with the new *régime*, and willing to sacrifice an ex-tutor's theories to the pressing demands of political life. The book of Protagoras may well have perished thus. His doctrine after that would survive only in the memory of his friends, and be cherished with that of the man. But human memory is evanescent, and the details would fade, or would never have been grasped.

[1] *Theæt.*, 161 B.

Still when groundless and grotesque attacks were made on the true doctrine under academic auspices, might not a man like Theodorus well grow indignant, and expostulate with the author of such treatment? Does not this account for his entry into the *Theætetus?* Is the Speech, in substance, the protest of Theodorus against the outrageous travesty of the Dictum in the *Cratylus*, and did Plato store it up for future use, and bring it out again, years afterwards, in the *Theætetus?* There is nothing in the known facts which excludes this theory and much that supports it. It is a hypothesis, but it explains all the facts in a simple and adequate manner.

But it is comprehensible that some should think it too radical a breach with the tradition. Mr. Gillespie also will not accept it in its integrity, and tries to construct a *via media* between it and the traditional interpretation. His procedure is ingenious.

(1) He agrees with a good deal of the new view. He agrees that the Dictum of Protagoras covers 'man' both generically and individually (pp. 480, 483), that it had reference to the moral crisis of the time (p. 481) and that Protagoras was an empiricist (pp. 472, 492), though he does not suggest also that his empiricism originated in first-hand experience. He agrees also that Protagoreanism was not primarily directed either against the Eleatics or against the mathematicians (pp. 477, 478). He agrees that the Speech is intended to state the authentic doctrine of Protagoras (p. 471). He agrees that the fusion of Protagoreanism with sensationalism is a combination of Plato's (p. 472).[1] Lastly, he concedes also, though reluctantly, that the Speech is *not* completely confuted in the sequel. Plato "ignores the element of utility" in his reply (p. 485), and "directs his rejoinder entirely against the relativism of the Dictum" (*ibid.*), and does nothing to confute the contention that man is an ineradicable factor in human experience (*cf.* p. 490 *s.f.* and 491).

But (2) on Mr. Gillespie's theory of the Speech this *lacuna* does not matter. For Plato, not the 'pragmatism,' but the 'relativism,' of Protagoras was the enemy, and this he does assail and confute, *as he understands it* [2] (pp. 487, 488). Or if he does not quite succeed, he does so "virtually" (p. 488).[3] As for the other incidents in the argument to which exception had been taken, the verbalities and irrelevancies and in-

[1] *Cf. Studies in Humanism*, p. 310. [2] Italics mine.

[3] Plato himself is not so cautious, but (falsely) claims to have shown that Protagoras's truth could not be true *even to him: cf.* 171 C.

accuracies,[1] the unfairnesses and harkings-back to misconstructions superseded by the Speech, the 'dialectical' character of the argument covers all that (p. 491). So criticisms of such procedures "have not the least foundation in fact" (p. 489). Whoever thinks that Plato's sole business, after setting up so strong a defence of Protagoras must have been to knock it down again as speedily and effectively as possible, is gravely mistaken. In the reply Plato is most of the time not dealing with the authentic argument of Protagoras at all. He is diverting himself 'dialectically,' discovering affinities between Protagoras and Heraclitus (p. 472) or "condemning the polemical methods" of *other* critics (the 'swine-baboon' methods) who "made game of the Dictum as an abstract principle," without regard to its context (pp. 472, 488, 492)—by the somewhat curious method of repeating their abuse in his own superior language. Or again (p. 487) he is showing that common-sense had obvious objections (which, as obviously fell short of the real doctrine of Protagoras), or exhibiting the reluctance of certain (imaginary) sages to apply the Dictum consistently all round (p. 489). In short, the argument is full of interludes and anything rather than a straight fight to the finish between Platonism and the authentic doctrine of Protagoras.

(3) Mr. Gillespie's theory greatly restricts the scope of the problem. It deals only with the relation of the Protagoras-Speech to the criticism which follows. It is in no sense a general theory of the relations of Platonism to Protagoreanism. It does not even involve a general view of the structure of the *Theætetus*. It renders the Speech and its 'refutation' a mere episode which is not organically connected with the whole argument, and neither arises out of what has preceded nor leads on to what follows.

On my theory, on the other hand, the connexions are clear. The first attack on Protagoreanism is a repetition of the

[1] Mr. Gillespie is mistaken in his account of the argument based on these (*Plato or Protagoras?* pp. 21-23). It was not my contention that the Speech contained the *ipsissima verba* of Protagoras (p. 485). It is not even essential to my point that it should contain the *ipsissima verba* of *Theodorus*. I merely pointed out that it is very strange that there should be discrepancies between the Speech and the subsequent references to it, on the theory of a Platonic authorship of its substance, while if its source was Protagorean (Theodorus) *small* discrepancies might creep in. I also pointed out that though they were verbally small, they implied a profound misconception of the sense of the Speech. And in any case does not the Protagorean substance of the Speech (which Mr. Gillespie admits) sufficiently account for the 'dual personality' I am censured for ascribing to the author of the *Theætetus* (p. 485 *n.*)?

grossly unfair misconceptions of the *Cratylus*. The charge is that it cannot discriminate between a good judgment and a bad. Any ape's judgment is as true and as good[1] as that of Protagoras himself. 'Pardon me,' Protagoras is made to reply, 'as "*true*" was what I said, taking true in a technical sense in which the term is restricted to truth-claims, but never, surely, as "*good*".' This is the only relevant reply, and adequate to the only charge advanced. How Mr. Gillespie can think (pp. 474, 485) that it is *not* the central feature of the Speech, but something to be ignored with impunity, I fail to understand. Even verbally the point is made as emphatic as the Greek language will allow (167 B). ἃ δή τινες τὰ φαντάσματα ὑπὸ ἀπειρίας ἀληθῆ καλοῦσιν, ἐγω δὲ βελτίω μὲν τὰ ἕτερα τῶν ἑτέρων, ἀληθέστερα δὲ οὐδέν. That surely dissociates 'Protagoras' sharply from the uncritical persons who could be crushed by 'swine-baboon' methods of criticism. No one who read the Speech for the first time, with a mind unprejudiced by Plato's subsequent polemics and innocent of the disputes about 'relativism,' could fail to be struck with the fact that the distinction between the 'true' and the 'good' is the 'nerve' of the argument, regarding it as a reply to what has gone before.

But what of what follows after? What of the reply to the Speech? Certainly that too may throw light on its meaning. But on Mr. Gillespie's theory it becomes a farrago of digressions and irrelevancies and appeals to side issues, which never, on his own showing, amounts to a complete answer. From a logical point of view Plato's reply is inadequate, and from a literary it is bad workmanship.

On my theory also it is no answer; but it was not intended to be. Plato did not attempt a *direct* answer to what was unanswerable. So he gives us a masterly attempt to conceal the fact that no answer was forthcoming, so masterly indeed that for over 2000 years it has served its purpose and persuaded mankind that it was an entirely successful answer. It is a triumph of art; and this is a sufficient explanation and vindication of its dialectical windings.

And lastly, how is the whole Protagoras episode logically connected with the discussion of Error which follows? Simply enough: if the doctrine of Protagoras (as understood by Plato) is false, and if it is not true that all truth-claims are alike 'true,' some of them must be false while yet claiming to be 'true'. It becomes imperative therefore to discriminate between true 'truths' and false. Now the essence of Error is to take as 'true' what is 'false'; hence the possibility of

[1] 'No worse' would be more literal: *cf.* 162 C.

Error must be explained, if the 'Protagorean' identification of truth and truth-claim, which abolishes Error as such, is repudiated. If no satisfactory theory of Error can be found, the result is simply a relapse into Protagoreanism, as Plato (after several failures) candidly hints.[1]

On Mr. Gillespie's theory no such connexion can be traced. Nor can anything intelligible be made of the lack of all reference to the Dictum in Plato's mentions of Protagoras before the *Cratylus*, and of the ignorance of the other Greek philosophers on the subject of Protagoras. There is no account of how the Speech came to be authentic; Mr. Gillespie merely states that he does not accept my suggestions (p. 470 *n.*). Nay, even the most proximate and germane questions have to be passed over lightly. The delicate question whether Plato had read the author he was criticising is regarded as settled by a remark of 'Theætetus' in the dialogue that *he* had (p. 471). But what else could Plato plausibly make him say? The Speech is supposed to epitomise Protagoras's *magnum opus*, but in order to explain why it is so unlike a cold-blooded epitome, alike in the conciseness of its reasoning and the fullness of its indignation, it is necessary to suppose that less than half of it is really an epitome, and that Plato needed most of it in order to express his reprobation of the unfair ('swine-baboon') methods of the ignorant critics, whose attack on the bare Dictum he had put so effectively in 161 C, and was going to endorse again in 169 D-E, after he had set aside the whole Speech (p. 473). This explanation seems improbable; but it is perhaps better than nothing.

(4) It would seem then that Mr. Gillespie's theory does not cover the whole ground. It neither (1) accounts for all the facts, nor (2) does it account for those it notices very simply. Nor (3) does it redound to the honour of Plato. It no doubt makes him out a great 'dialectician,' but only if the translation of 'dialectician' into plain English is taken to be something like 'dishonest trickster'. Now I am aware that history shows that the word 'dialectic' is very elastic and can be made to cover any number of philosophic sins, but surely there are limits to its fashionable use as a euphemism for a bad argument. We must not get into the habit of thinking that gross irrelevance, unfairness, and improbability are promptly sanctified by applying to them the word 'dialectical'. Elsewhere, *e.g.* in the first book of the *Republic*, Plato shows that he can handle 'dialectic' quite differently. And

[1] 190 E. *Cf. Plato or Protagoras?* pp. 25-28. I have argued elsewhere that this is the logical position of rationalism to this day.

in particular Mr. Gillespie's suggestion (p. 473) that the protests 'Protagoras' makes against the captious criticism, to which his dictum has been subjected in the 'swine-baboon' passage, is expressive of *Plato's own* abhorrence of this great Socratic art, is a severe strain on the most amiable credulity. With every willingness, therefore, to allow for varying estimates of the probabilities of internal evidence, I cannot see that Mr. Gillespie gets round the main fact that on my interpretation the Speech is a straightforward and effective answer to the most obvious and effective objection to the Dictum, whereas on his theory it is not, and the ensuing criticism, whether 'dialectical' or not, is incomplete and ineffective.

(5) Moreover, it does not seem as though Mr. Gillespie's theory admitted of being stated either (*a*) with a due regard to the facts, or (*b*) in a wholly consistent manner. It requires him at times to make assertions which are clearly untenable and to come very near contradicting himself.

(*a*) He could hardly substantiate the assertion on page 481 that on Protagorean principles a judgment "*does not claim to be true except for the maker*". Not only is this not asserted by Protagoras, but it denies the real crux of the situation. If subjective experience were content to be merely subjective, it would lead to no conflict with other similar but incompatible judgments, and would produce no problem. It is precisely because all men and all societies think their own views true, because the *claim* of the judgment *is* universal, that there is trouble. For these claims cannot all be valid together. They must somehow be selected from to form a rational system and a social order. If Protagoras perceived this, as his distinction between the 'truth' and the 'goodness' of an opinion plainly shows, it cannot be correct to say that "he laid no claim to superior wisdom" (p. 481); and accordingly in 166 D Plato makes him say that one man's judgment may differ ten-thousand-fold from another man's. Moreover, in 167 C it is implied, and in 167 D it is explained, that the 'better' judges may properly be called 'wiser'.

Nor again does Mr. Gillespie's exegesis of the Protagorean philosophy of politics seem to accord either with the text of 167 C or with the logic of the doctrine. The case of a city which takes a 'worse' view of the just is precisely parallel to that of the individual who takes a 'worse' view of the true: in either case there is need for the expert, the speaker or teacher, who can make them take a 'better' view. Again

there is no 'restriction' of the *claim*, though there is of the *validity*, of the individual judgment.[1]

Lastly, it does not seem satisfactory to translate the *ἀγαθὸν* of the Speech by 'utility' rather than 'value,' and Mr. Gillespie should not have let the use of *συμφέρον* in the Platonic reply colour his translation of the text of the Speech. He surely would not translate the *Ἰδεα τοῦ ἀγαθοῦ* as the 'Idea of Utility'?[2]

(*b*) It seems difficult to harmonise Mr. Gillespie's views about the substance of the Protagoras-Speech. He began (p. 471) by agreeing that its matter was authentic. Yet on page 485 he censures me, for inferring from this same premiss that some notice must be taken of the wording of the Speech, and insists that as this is by (or *in?*) Plato, it constitutes no independent evidence of the meaning of Protagoras. In the next paragraph he again holds that the Speech substantially reproduces views of Protagoras in the language of Plato. If so, why may we not take account of the emphatic passage in 167 B?

Again, is Mr. Gillespie's apologia for Plato's polemical procedure really adequate? He holds that Plato considered the 'pragmatism' in the Speech to be so secondary to the 'relativism' that he confined his attentions wholly to the latter. But even granting (as I cannot do) that this is a

[1] Mr. Gillespie's conception of the relations of *claim* and *validity* does not seem quite clear. The remark (p. 483) referred to should run "this doctrine implied a restriction of the *claim* of the moral judgment". But it is not true, either in Protagoras or in fact, that it "does not *claim* to be valid" beyond each social group. On p. 486 he, more correctly, represents the Platonic 'Protagoras' as asserting the identity of 'claim' and 'validity'. But this seems inconsistent with the passage on p. 481.

[2] There are a good many slips, mostly of a minor kind, in Mr. Gillespie's exposition of my views, and he by no means meets all my arguments. But I will only refer to his initial misconception that I regard the Protagoras of the *Theætetus* as enunciating "the fundamental principle of Pragmatism" (which is that the truth of assertions must be tested by their consequences). This principle certainly does not occur in the text. What does occur is the suggestion that a question of its 'good' (or value) may be raised about a 'truth' (or fact). As the doctrine stands this is *not* a "subsumption of truth under the concept of utility" (p. 479), nor is it my own view, because it does *not* recognise a distinction between claim and validity in the realm of truth-value; but it is something noteworthy and quite unique in ancient philosophy. I carefully pointed all this out (*Plato or Protagoras?* pp. 17-18; *Studies*, p. 36). But I also doubted whether the Platonic account, being probably at second-hand, could on this point be trusted, and hinted that Protagoras may really have gone further. The real and undisputed feat by which Protagoras earned the right to be called a humanist, is of course the discovery of the *Homo Mensura* itself, and it is this that I regard as his "central doctrine".

proper interpretation of the text of the Speech, does this really make the reply relevant? The relativism of the Speech was nothing *new*, like its pragmatism. The bare Dictum affirmed it. It could have been and was criticised without introducing the Speech at all, and in fact it continues to be criticised as though the Speech had never been made. The other new points in the Speech are ignored similarly,[1] and such minor points as are referred to are misconstrued.[2] As a *new* document, therefore, in the case the Speech is quite inoperative, and for all the logical difference it makes might have been eliminated altogether.

How then can my contention that Plato's reply ignores the Speech be said to have "not the least foundation" (p. 489)? On Mr. Gillespie's own showing, it has abundant foundation. A distinct, and the essentially new, point in the Speech *is* ignored, when it is admitted that the reply is "directed entirely against the relativism of the dictum" (p. 485). And to urge that "if Plato in his defence treated the element of utility as being secondary and ignored it in his reply we have no right . . . to regard it as primary" (*ibid.*), is manifestly to beg the question. However much estimates of the relative importance of factors in an argument may differ, Mr. Gillespie cannot get round the fact that the 'new facts' in the Speech are not examined at all, and that therefore the Speech is *not* completely answered.

And in the end he admits this himself. What Plato refutes is not 'man the measure' but 'man the maker' of the world (pp. 490-491). But this is ultra-modern, and who ever attributed to Protagoras a belief that man is "the complete *magister naturæ*," and "the sole arbiter of his destiny"? Certainly not Plato, and certainly not I.[3]

Lastly, I cannot extract any really consistent meaning out of Mr. Gillespie's views of the Protagorean attitude towards truth-claims and their value and validity. The dicta which a student of his theory has to harmonise are these: (1) "Protagoras is made to assert degrees of value and deny degrees of truth" (p. 479); (2) Protagoreanism implies "a restriction of the validity of the moral judgment. The moral judgment does not *claim* to be valid beyond the sphere of the social group which forms it" (pp. 483-484); (3) Protagoras does not "see that the judgment claims a universal validity" (p. 484); (4) he "draws a distinction between a belief and its value; so do we all" (p. 486); (5) 'Protagoras' does *not* st-

[1] *Plato or Protagoras?* p. 18. [2] *Ibid.*, pp. 2?
[3] *Cf. Studies*, pp. 320-321.

that the 'value' of a belief gives it 'validity,' but regards truth and utility (goodness) as conceptions with no point of contact (p. 486); (6) to Plato's 'Protagoras' "belief and validity are the same" (p. 488, *cf.* p. 486); (7) "there is no justification whatever for the view that Protagoras taught that truth is a 'value' or any similar Pragmatist doctrine" (p. 492). Of these dicta No. 1 seems to me to be true, and Nos. 2, 3, and 7 to be false, while Nos. 4, 5, and 6 seem seriously misleading. But it seems clear that the first and the last implicitly contradict each other. For if the Platonic 'Protagoras' asserts 'degrees of value' *among* '*truths*,' he clearly brings 'truth' and value into connexion, and it becomes imperative to consider also how the real Protagoras may have conceived the relations of truth and value. Hence there is at least a possibility that he not only described 'truths' as *differing in* 'goodness,' but as *sorts of* 'goodness'. But this possibility was not asserted by me as a certainty.

The fourth and sixth dicta similarly seem to be incompatible; for if Protagoras *identified* belief (claim) and validity in judgments that claim 'truth,' how could he *distinguish* between a belief and its value, seeing that it is only by the approved value of a claim that its validity is established? The way from a belief which is as yet a mere claim to its acknowledged validity lies through experience of its value, and if validity is conceded to a claim, *a fortiori* value must be. To make Mr. Gillespie's dicta intelligible it is necessary to add that whereas 'validity' is used in a logical sense only, 'value' is ambiguous, and may be either logical or teleological (moral). Now 'value' is used in its teleological sense in the first dictum and in the logical sense in the fifth, while in the fourth and seventh it is used ambiguously. The simple truth of course is that Plato's 'Protagoras' makes teleological value or 'goodness' the criterion for discriminating between conflicting truth-claims, and that to this extent he does *not* identify 'claim' and 'validity,' though he allows all claims to retain the label 'true,' which however no longer retains its traditional meaning, just because the distinction between truth (claim) and value has been introduced. This distinction is quite unparalleled in Greek philosophy, and it seems strange to conceive it as *denying* a point of contact between truth and value (*cf.* No. 5); to make the 'good' control the 'true' is surely to bring them into a closer relation than they were in before and to deny that they are utterly irrelevant to each other, even though it does not amount to ascribing truth a sort of value. Mr. Gillespie's account fastens upon a logical point that truth is not expressly called a

value, and overlooks the enormous advance involved in finding any connexion at all between the two conceptions. My theory recognised the great originality of the 'Protagoras' of the Speech, and suggested that the real Protagoras must have had reasons to go further still; Mr. Gillespie's has to blind itself to the existence of any novelty at all, and has no excuse for this arbitrary procedure but Plato's artful avoidance of the novelties in the Speech.

Finally, I will try to explain an argument in my pamphlet (p. 23) which Mr. Gillespie finds obscure (p. 491), and has in fact failed to apprehend. It refers to what I called the 'compromise' offered to the Protagorean principle in 172 A-B. It was to be admitted that what a city affirms in its laws as 'just' and 'beautiful' is to be regarded as such 'in truth,' but that nevertheless it may be no judge of what is 'advantageous'. Now it is clear that this proposal is incompatible with thorough-going Protagoreanism, and forms a thoroughly illogical compromise which tries to slur over the real crux, *viz.* that though cities have the power to give social currency to their estimates of the just and virtuous, and no individual can gainsay them, yet the laws they enact may nevertheless be bad and wrong, and ultimately ruinous. On my theory this fact had formed one of the data which the Protagorean theory was designed to explain. The explanation, as given in 167 C, I took to be that States needed expert advisers ('rhetors') as much as individuals, and that the true statesman's advice was more valuable and so capable of reforming the existing laws. Consequently the genuine Protagoreanism of the Speech cannot make a distinction between what a city thinks about the 'just' and about the 'advantageous'. In both cases what it thinks is 'true,' but may be 'bad'. The argument of 172 A-B, however, whether 'dialectical' or not, is totally irrelevant to this position. Whether certain persons were willing to make an illogical and futile compromise on the question or not, and whether they represented 'educated opinion' or not, is *nihil ad rem.* It is *not* the position of 'Protagoras' in the Speech, and Plato is merely confusing the issue by introducing an indefensible position which he had not to reply to, instead of an unassailable one he was bound to deal with. His motives for this substitution are a matter of conjecture, and Mr. Gillespie is free to form his; but he should recognise the facts.

To conclude, Mr. Gillespie's interpretation of the whole discussion appears to me to suffer from the same prejudice which has baffled attempts to analyse the *Theætetus* truly all

along: he continues to read the Speech in the light of the reply, and to accept Plato's official assurances that all is well with it, instead of noting the actual arguments of the Speech and comparing them with their *soi-disant* refutations.[1]

In spite of this lingering prejudice, however, Mr. Gillespie's interpretation means a great declension from any fanatically Platonist position. He admits that the Protagoras of the Speech is not disposed of, and that philosophy has reason to remember the humanism of the genius who discovered that "in dealing with the problems of life we must ultimately rely on our judgments concerning things" (p. 491). It is vain to condemn this as 'relativism,' so long as you can neither deny the fact, nor explain how it is possible to pass from the human to the 'absolute' aspect of things.

[1] Another good example of the subtle distortions to which this method leads may be found on p. 489. In 178-179 'Socrates' is (irrelevantly) refuting the 'unqualified' Protagoreanism of the unexplained dictum and the unauthentic substitute propounded in 172 A, and incidentally showing that the anti-intellectualism of 167 A-C has not been understood. But Mr. Gillespie is led to describe the situation as being that "Protagoras had reduced the superiority of the wise to superiority in power. Socrates shows that this power rests on superiority in knowledge." In point of fact there is no reference in the text to the Speech, and no mention of 'power'; 'Socrates' simply ignores it and dogmatically reasserts that one man is 'wiser' than another (the why and how of which was precisely what the Speech had explained on Protagorean principles), and the demand of the Speech had been, not that the superiority of the wise should be '*reduced*,' but that it should be *enhanced* (and paid for!), by being made practically efficacious. 'Protagoras' had declared plainly that mere superior *knowing* was not sufficient and that superior *doing* was the real aim both of moral instruction and statesmanship. To all this there is not the slightest reference in the Platonic reply, and yet Mr. Gillespie will not see that it is irrelevant and incomplete!

III.—THE GROUND OF APPEARANCES.[1]

By E. D. Fawcett.

The main contention is that Nature and conscious individuals are evolved in time out of what can be best likened—not to a *Cosmic Reason* or *Will*, &c., but—to *Imagination*.

I propose to advance what I believe to be a novel view[2] regarding that Power whose transformations show in Nature and the history of conscious spirit. And, first, let me fix the meaning of a term, surely of ambiguous import, which figures in my title. By 'appearances' I mean just what are styled ordinarily, but somewhat uglily, phenomena. In using this term I am not hinting, in absolutist fashion, that the said appearances are more or less unreal and that thought about them is, for this reason, more or less false. Appearances, I must contend, while they do not exhaust, are comprised in, Reality. They are such portions of Reality as thrust themselves with varied degrees of insistence on conscious life; sometimes showing fully within experience, sometimes only partially and darkly, sometimes again not being present directly at all, though attesting their existence indirectly through what they work.[3] And an inquiry into the Ground of these appearances is not a quest of the 'unknowable'—not the attempt to refer them, in Spencer's fashion, to a surd. For the Ground in so far as it sires Nature and conscious individuals, can be observed in what it becomes and is qualified by what it does. It is reality which discloses its fundamental character in the appearances themselves. This character, as we shall note, is psychical. But we need not, perhaps, rest content with this vague characterisation. There seems scope for much richer and more satisfactory thinking. Nay, it may be feasible to go back in thought to a remote stage in the history of the Ground—to

[1] A paper (with certain additional matter) read before the Oxford Philosophical Society.

[2] *Cf.* however, below, p. 208.

[3] For such indirectly attested appearances, *cf.* my *Individual and Reality*, pp. 99 *et seq.*

suggest *e.g.*, albeit obscurely, how Space, Time-Succession, Nature and conscious finite centres—that enigma which for Bradley and other absolutists is insoluble—arose. And looking forward to the future we may be able to form a concept of the consummation—the 'divine event' as Tennyson would have styled it—towards which the finite centres arising in the present world-era seem to move. These are bold assertions, I must allow, and, needless to say, I am not prepared to make them good in the course of a brief paper. Those who are interested are referred to my work *The Individual and Reality*. That essay is an attempt to indicate the general drift of reality in so far at any rate as it concerns mankind. It was written, not as idle speculation, but with some genuine regard to the exigencies of proof! To-night, however, I have to take heed of the flight of time and cannot possibly contrive to make good all my debatable contentions as I go. I am compelled, indeed, to deal largely in mere suggestions with the reminder that objectors may find elsewhere some answers to inevitable criticisms.

In the essay of which I made mention, Idealism—or as some, perhaps, will prefer to term it, Panpsychism—is the dominant note. Sentient life is found to explore reality from the inside; experience-content to sample the stuff of which the universe is made. So far, so good. But there are many forms of Idealism; hence the statement just made will not carry us very far. The object, accordingly, of the essay is to find what *form* of Idealism is most adequate to the reality which has to be thought. Metaphysics is regarded as an inquiry into the general character of Reality, and the problem is to interpret Reality, with full appreciation of the deeper riddles presented by Nature and conscious life, on panpsychistic lines. I say "full appreciation" advisedly. It seems absurd to acclaim any system as successful, so long as these all-important riddles remain unread. Yet, even Hegelianism, lost in conceptual mazes, has left the position of sensible objects and the standing of finite centres, such as humans and animals, grievously obscure. It has dispelled nothing of the mystery which enwraps Nature and the appalling tragedy of sentient life. The individualist metaphysics of the future will tolerate no pretentious failures of this sort. Metaphysics, however general may be its survey, will have to treat these issues with the supreme respect which they ought to command.

I must mediate my discussion of the *Ground* by indicating briefly in what manner I was led to approach this topic in the Essay.

The purpose which animates the metaphysician is the attainment of one sort of truth—truth about the general character of reality. And what he comes to acquire is just an arrangement of statements (a human-propositional makeshift, a poor and unsatisfactory possession, but still his own) which, in view of his limited end, can be substituted for reality—for reality at large as taken together or '*com*-prehended' in mental and merely symbolic representation. A metaphysical system consists of such propositions arranged according to a plan, and is true if these propositions agree, sufficiently for the purpose in view, with the reality for which they have been substituted and stand. Thinking is ordinarily purposive, though not always so; for the most part, as observed by Dr. Bosanquet, we judge towards an interest. And because at this moment I am interested only in abstract aspects of reality, the truth-system of metaphysics, highly selective though it is, serves my turn. I can suppose, however, that there exist superhumans to whom this vaunted truth-system would seem ridiculous, a mere weariness of the soul. An intuitive understanding for which there is no contrast of 'truth' and 'fact,' strikes me, in sooth, as ideally preferable.

The truth-system, in short, is just a dodge or device. It enables me to *feign* that synoptic view of things which my limitations, at first sight, seem to preclude. For I am thinking, after all, only within the petty circle of my experience. I have to fish in a very tiny pool, which is held to sample somehow the ocean. And there can be no quite satisfactory 'catch' even in the tiny pool, since most of the fish slip through the meshes of my verbal-intellectual net. Truth to tell, too little is embraced in abstract propositional thought. And, alas! the portions of that little are not present to me simultaneously. I have to run over my unfortunate 'system' bit by bit. I am like a miser never sure of my money save when I am counting it! I think, aridly and abstractly, about the universe. And I am never able to confront the results of my thinking as simultaneously present aspects of an impressive whole.

Truth on the above showing arises in individuals; without presupposing a cosmic Thought-Whole "self-fulfilling and self-fulfilled". And with decay of *faith* in this unverifiable Thought-Whole, the interest in Hegelian and like intellectualist attitudes is flickering out. We proceed, then, to dethrone the Concept regarded as *prius*. It remains to become frankly empiricists, and return to concrete appearances—to the "flux". Schopenhauer (real herald of the movement which

has as its modern phases pragmatism, Bergsonism and so forth) is the Luther of this great metaphysical reformation. Schelling, also, in his later works condemned the cult of the Concept and with that the imposing Truth-system of Hegel, doing much thereby to prepare the way for the radical empiricism which is active in metaphysics to-day. Did he not urge us to get back to the dynamic of the live appearances, not overlooking concrete reality for love of dead substitutes? It is well to draw attention to the service rendered by these two men—lovers of new things have forgotten sometimes where the credit for novel initiative has lain. But with this bare allusion to the matter, I must pass on.

So much for "Truth". And now as to the manner of attaining it. I have laid stress on the need for the return to concrete appearances. I have to consider forthwith what text of appearance is available for metaphysics to read. Well: I am aware of certain indubitable appearances—content of the subjective and objective sides of the centre of consciousness which I call "mine". I cannot crawl, it seems, outside the field of this consciousness, save in idea. And all excursions in idea are attended with theoretical risks. Hence a provisional Solipsism is adopted, and for this justification may be sought even in an absolutist quarter. Does not Bradley aver "My experience falls within my own circle, a circle closed on the outside; and, with all its elements alike, every sphere is opaque to the others which surround it".[1] My own Sentient experience, regarded provisionally as a 'closed circle,' is, accordingly, the starting-point. I pass on to consider appearances, *i.e.* the aspects of my sentient experience, as I am aware of them *within* the 'closed circle' and conclude that they are real, and if the so-called "Law" of Contradiction is taken too seriously, often 'contradictory' as well. But I must hasten. Considering my Finite Centre, or 'closed circle' itself at some length I reach the following results. Its content "is not bare discretes, but comes whole; that consciousness is no independent witness, but is inseparable from this said content; that content may be lit by clear consciousness, show dimly in the twilight of the subconscious, or be continuous with process that is entirely dark. Consciousness is the form which activity below the conscious level may take. We agreed that the Changeless, the merely Simple, the merely Unitary Ego, and the Ego viewed as unknowable substance, are myth. Psychological idealism is invalid. The empirical 'mind'

[1] *Appearance and Reality*, p. 346

and 'world' are distinctions *within* the Centre: distinctions preceded by Mill's Neutrum at which stage only a confused feeling-complex obtains. There is a Whole-Feeling, or super-relational awareness, answering to the content-whole in which 'mind' and 'world' take their rise. This content-whole, again, might be lodged in a Monad; but Monadism is unsatisfactory, creating difficulties too grave to be overcome. Content, withal, implicates a mother-stuff which appears, or is manifested, in it. *If, however, this mother-stuff is not a Monad, what is it?* This is the consideration which is now looming large. Let us admit that the origin and standing of the Finite Centre are still far to seek."[1]

Pursuing always the project of crawling out slowly and tentatively in idea, from my microcosm into a hypothetical macrocosm, I pass to the consideration of the tremendous riddles embraced under the head of Nature. The problem of Nature is treated at first along with the problem of Ejects, as was the case in my former work. The belief in a mechanical Nature is shown to be eminently useful, and absurdly untrue. And by way of an argument based on the belief in Ejects—in transcendent conscious centres whose *esse* does not consist in the fact that they are inferred by me—I contend that I have shattered that form of agnosticism which grew out of Kant's famous inconsequence, the thing-in-itself. There are no unknowable 'things-in-themselves' at the back of sensible objects, but there exist assuredly *transcendent regions* of Nature—regions which do not fall necessarily within any direct conscious experience at all. These unpresented regions, however, are psychical in character. The evidence justifies belief that they comprise (not, indeed, what have been called monads but) genuine psychical 'minor centres' fundamentally akin to the 'major centre' in which I myself arise.[2] And much, it would seem, may be known (*e.g.*. that they are spatial, show the secondary qualities, etc.) about certain of these 'minor centres' by direct observation of their behaviour in connexion with my conscious life. Incidentally it is seen that there are as many '*shadow-natures*' as there are perceiving individuals, but that there obtains, *also*, a macrocosmic or enveloping common Nature, and that this macrocosm is a continuous reality with aspects related in time and space: a point on which I cannot now dwell. It may prove feasible to speculate as to how this common giant Nature came to exist. And when we grapple with the problem, we

[1] *Individual and Reality*, p. 83.

[2] William James considered that the case had been made out satisfactorily.

shall find, perhaps, that it is the so-called 'secondary' qualities of objects which are truly primary; a reversal of the popular supposition which is worth noting.

But ignoring side-issues, let us agree that Nature is psychical in character. We continue by considering the manner in which a conscious centre arises and unfolds along with a body.[1] Tentative solutions of a great variety of problems become urgent—*e.g.* problems of the relations of conscious life and body, of sensible perception and the "categories" (which latter in their German form seem superfluous assumptions; no "universals of thought" being implied by the rise of the object-experience); of the sundering of subject and object, and of the growth of an *Imperium in imperio* in connexion with brain—a growth such that the conscious centre awakes slowly to hold sway; though only a 'constitutional' sway, within the very determining conditions in alliance with which it arose. The later story of a conscious centre negatives the view that a dynamic operative solely from below, can furnish a complete explanation of all the ways in which the centre comes to will and think. Determinism, I have urged, is untenable, while, *pace* Bergson, its unsoundness may not be removed utterly from the sphere of explanation. I must refrain, however, from dwelling on not directly-relevant topics such as these.

In Part III. we reach our present theme—the discussion as to the character of the Ground. I have crawled in idea out of my so-called 'closed circle' so as to compass a *feigned* experience of other sentient beings and of a giant Nature of which, in the main, I have no direct knowledge. And now I want to make my inferred knowledge—my feigned experience—of the macrocosm more adequate. I want to know of what power or powers Nature and the innumerable sentient finites allied with it are the expressions or transformations. I say 'transformations,' because it will be borne on me later that the Ground or Power which lies in and behind all becoming does not merely reveal, in Hegelian language, "what it is in itself". The Universe, it is arguable, shows alternating phases of changelessness and change.[2] And in a change-phase, that in which histories of progress and decay, of evolution and dissolution, happen, there seems to be a continual accession of novelty to the real. The Ground does not merely turn itself inside out to show in the

[1] "Body" can be understood in two very different ways: *Individual and Reality*, p. 160. Body, *as I perceive it*, is merely an appearance within the "shadow-nature" peculiar to my private experience.

[2] *Individual and Reality*, p. 270 *et seq.*

becoming; it changes, is indefinitely plastic. A recognition of this fact prepares us to consider the revolutionary hypothesis which I shall submit later.

The character of the Ground must, of course, be considered as psychical. There is no empirical case for belief in reality which is not psychical. Experience-content samples the stuff of which the universe is made. On the other hand, psychical reality may not exist universally in forms such as we group under the head of 'conscious life'.

Faith-attitudes respecting the Ground of Becoming do not concern philosophy. Faith speaks in conflicting voices and that which is said concerns the heart rather than the head. And Intuitionist deliverances, which profess to dispense with inference, are also in the main very unsatisfactory. Intuition which does not *present* the alleged "intuited" is idle. As I have urged elsewhere[1]:—

"Intuitionism, like Faith, gives rise to a babel of discordant voices. There is, of course, a genuine experience involved, and I conceive it to be just this. *What really is intuited is the Centre-continuum which is genuinely felt* (Part II. Chap II. § 8) and *which is certainly more than the inward or restricted empirical self* (*ibid.*, § 7). Now the use made of the experience is improper. It occurs *within* the circle of an individual. But it is taken to reveal a reality, the vastly greater portion of which must fall *outside* this circle. In fine, the experience is used "transcendently" and serves to validate just what the particular intuitionist requires. Very noteworthy is the language of Spencer: "Our consciousness of the unconditioned being literally the unconditioned consciousness or *raw material* of thought, to which in thinking we give definite forms, it follows that an ever-present sense of reality is the very basis of our intelligence". What is this "raw material of thought" but the unbroken continuum of the Centre? It is an immanent fact, not a transcendent Absolute. And seeing, also, that it is "real existence" and is "known" likewise through and through, it is certainly not the *Unknowable* Absolute of which Spencer writes. Clearly there is a little mistake here and the confusion is well worth noting.

The attitude of Bradley is no less unsatisfactory than that of a Spencer or Schelling. He, too, uses the experience above noted to attest his Absolute. He objects, it will be remembered, to the assertion that his Absolute is "unverifiable" and professes not to understand what is meant. He holds

[1] *Individual and Reality*, p. 238.

that "the Absolute is in a sense *the given fact* and that to leap to it from fact by transcendence is unmeaning". There is that *in my experience* which is *above* subject and object. And in this *given* reality above subject and object he finds the Absolute.

My reply is that the "unverifiability" alleged means simply that Bradley's Absolute is not found in my sentient experience. "My experience," he has informed us, "falls within my own circle." And the kind of experience on which he lays stress is not the Absolute any more than it is the communicative deity of St. Teresa and like ecstatics. It is just experience of the *background of the finite Centre*—of that residual unanalysed content in which nothing particular stands out. But why call this more or less unbroken continuum the Absolute—*i.e.* reality which is held to be above time, and space and differences? The continuum is certainly not above time and space, while differences are found to swarm in it as soon as the focus of attention shifts. To leap from this "given" background to an elaborately conceptual Absolute, to the perfect, complete harmony which is above time, we *must* proceed "by transcendence". The said conceptual Absolute is of the nature of an 'overbelief' which sentient experience does not support.

Let us, then, avoid these leaps which a Schelling, a Spencer and a Bradley, to mention no others, make in different directions as their particular philosophical proclivities dictate. We had better proceed by continuing our thinking in the cautious manner in which we began. It is useless to rely merely on direct insight; the individual filling too petty a tract of Reality to be able to talk about a "consciousness of the unconditioned" and so forth. His direct consciousness is of experiences within his little circle. And to interpret these experiences as revelations of the Absolute or of god is to *supplement the "given" with an inference* and to abandon the original intuitionism in which reliance was placed. It is one thing to assert that I experience somewhat which I label the Absolute or god. It is another thing to aver that the Absolute exists beyond my experience as well as in it—that it is more than a concept which subserves my particular mode of reconstructing appearances in thought.

Passing, then, to hypotheses which avowedly appeal to inference and supply "proofs," we note that form of Theism which believes in a "sum-total of all reality and perfection" which it regards as *self-conscious*. Our concern is with the view that God is the ultimate ground of the world-order and of the finite individuals conceived as in it. It is unnecessary

to assail the older Ontological, Cosmological and Teleological arguments which have been adduced in support of this view. These arguments are admittedly unsatisfactory. Happily this "sum-total of all reality and perfection" is not the God of the plain man, who, when of the theistic persuasion, puts his trust in a finite being; in a person who can manifest in relations of space and time. The philosopher's god of the Kantian 'unconditioned-ground-of-all reality' type may be dethroned without prejudice to popular theism.

The design argument has, withal, a very important bearing on the case for theism and even for polytheism. The apparent marks of purpose in our corner of the cosmos may point, as I have urged elsewhere, to a finite god —nay, to a plurality of finite superhumans—as a causal power working in space and time. But even a supreme finite god, if such there be, need not be regarded as personal in the customary sense of the term—we may be considering a power born from the *coalescence* of conscious centres, of once discrete individuals who, in prior æons of cosmic story, have reaped the rich harvest of their plurality of lives.[1] We may be considering, in fine, not a mere individual, but the Supreme Society.

There is an argument, much favoured by conservative idealists, to the effect that the perception of reality, viewed as experience, justifies an inference to God. God is presupposed by the fact that a cosmos appears. "The analogy of the preceiving consciousness is transferred to the universe or universe-consciousness, and, as perceived, reality is simply relation in time to a subject out of time, so is all the reality of the universe." God is not the mere "First Cause" of the crude cosmological argument, but the Self, an eternally complete consciousness,—the presupposition as well of finite individuals as of things,—which both goes beyond, and is immanent in, the fragmentary time-shows we face. Idealism of this type holds that self-consciousness "never began, because it never was not. It is the condition of there being such a thing as beginning or end."

There is inference, then, on these idealistic lines, to a *self-conscious* Ground.

Having dealt at length with this argument elsewhere,[2] I will only indicate its main defects now. (1) The assertion that reality, as perceived by me, is relation to a subject out of time, cannot stand (2) self-consciousness is a stage in a

[1] *Cf.* the discussion as to the hypothetical "supreme society": *Individual and Reality*, pp. 429-449.

[2] *Individual and Reality*, p. 246 *et seq.*

development: is what may be called a midway point in a psychical scale which starts from the subconscious.

Even in my waking hours I am not always *self*-conscious —there obtains at times merely consciousness. And, again, all conscious states have fringes wherein nothing like clear awareness is present. "Consider my centre. Certain sorts of content are rapidly replacing old and rising on to the conscious level *in the process*, while a background of relatively permanent content, the nuclear mass of body-feeling, etc., maintains a more or less subdued awareness throughout. Let us note that consciousness shines brightly only in a small area of the Centre. There is a focal point, and away from this spot awareness shades off into the sub-conscious. Consciousness, when present, is inseparable from content, is the 'form' in which experienced content comes. But content which takes on this form may be continuous with process that flows in the dark. In fact, consciousness seems an island in the sub-conscious: an island whose highest peak shows clear, but whose lower levels and shores are shrouded in mists and menaced always by the encroaching sea." And we do not seem warranted in ascribing self-consciousness to the Ground. The latter is not one of the islands, but the ocean!

Belief in the sub-conscious Ground is reached as follows: "First I examined my Centre, or rather that portion of it which is conscious. This was found to be real in a relativity, to be a whole not genuinely closed, but comprising the workings of other relative wholes. . . . These various wholes are not monads such as Pluralism holds so dear. They are not discretes which come to relation, each in solid singleness secure; separates from whose *union* might result a world. They *are* only as they interpenetrate and mingle 'contradictorily' with one another's being—a unity of mutually constitutive powers which interact. It is a UNITY-PLURALITY, an active continuum with continua, one stream showing travelling eddies, which I confront. And when I come to discuss the Ground I cannot leave this empirical revelation behind. . . . Experience goes to show that conscious life, which is of many grades, arises in time. Hence an old argument, already improved by the theistic idealists, may be improved once more. The sub-conscious Ground is presupposed by the arising in time of the UNITY-PLURALITY of finite centres." . . . To cite von Hartmann, "The theory of the Unconscious [better, sub-conscious, E. D. F.] is the necessary, if tacit, presupposition of every objective or absolute idealism which is not unambiguously Theism". If we reject a

modified Nihilism, *i.e.* the view that "states of consciousness" arise inexplicably in a metaphysical void, we are driven back on the sub-conscious as the fount and origin of all sentient life.

Von Hartmann's advocacy of the Unconscious tends to suggest that the Ground is not really psychical at all. But in using the term *Sub*-conscious, I am referring to an activity which is genuinely psychical, though devoid of self-awareness. It would not be honest to dub this activity "God". The Ground is not *any one* individual, divine or other, but rather that which has its conscious life in *all* individuals whatever. In so far, however, as it is considered in the aspect which *lies beyond* these conscious individuals, it can be discussed, if you so desire, as the Sub-conscious.

The Ground, in so far as it has passed into Nature and individuals, reveals its *present* character in the appearances into which it has been transformed. But, in so far as it is the *residual* universe below what happens to be mirrored in conscious life, it falls outside direct knowledge and must be discussed with befitting restraint. And if we strive to understand what it was at a remote stage of its history, *e.g.* before Nature and individuals came to be, this restraint seems very urgently required. In the present stage of the time-process reality must be so very different from what it was. But we seem justified, withal, in proffering various suggestions which may be discussed without imperilling our self-respect as philosophers![1] It was psychical (*i.e.* its nature was akin to what we call feeling). It was no Absolute save in the sense that its conditions lay wholly within itself. It was "complete," in respect of these conditions, but it was not, also, "perfect" and "finished" as the traditional Absolute is held to be. It was above the "law" of Contradiction, for change is as "contradictory" as anything can be. It was active[2] and its character included a power to change its character, so that it was not *limited* by the phase of changelessness, but could show alternating phases of changelessness and change or time-succession and thus have a history or development as well as static rests.[3] The Ground, in short, shows a Duration with alternating phases of no-change and change. Metaphysics, so far from dealing with "eternal and unalter-

[1] *Cf. Individual and Reality*, pp. 259-279.

[2] For "*activity*," *cf. Individual and Reality*, pp. 266, 273.

[3] A *no-change* Absolute is surely limited by this very characteristic. For the hypothesis that the universe shows alternating phases of Change and Changelessness (Days and Nights), *cf. Individual and Reality*, p. 270 *et seq.*

able reality," confronts at present a becoming of which probably no finite individual, divine or human, can forecast the close. This slow transformation of the Alogical Ground—a transformation in which conscious finites, as they develop, must count for more and more—constitutes cosmic progress. There is spontaneity, a limitless fecundity in this Ground. The "reign of law" is not original, but supervenes and it never excludes wholly the play of "Chance". And, thanks to the fecundity, strife has proved in verity father and lord of the natural process which has issued in the evolution of the higher organisms and conscious life. Maybe, even Time-succession and Space are direct expressions of this struggle which broke out spontaneously in the primeval Ground.[1]

But time presses; therefore, ignoring a variety of interesting issues, I must be content with advancing the hypothesis which induced me to pen the present paper. The aim of this hypothesis is to indicate more precisely than heretofore the way in which the activity of the Ground, regarded as the power which transforms itself into Nature and individuals, ought to be conceived. Dr. Schiller has now informed me that this hypothesis is not new, but has been discussed in a German work of which, however, I have not retained the name. However, I have no particular interest in the supposal in the hope that it may be new: I am much more moved by the likelihood that it may possibly be true. Take heed that there is no call to shy at its (to some) paradoxical aspect. Philosophy, as Haldane observes, progresses by way of hypotheses "tentatively applied and afterwards tested by and adapted to the facts of experience".[2] The hypothesis of the *World as Imagination* requires no more considerate handling than is allowed by this writer.

It is contended that the attempt made very unconvincingly by Plato and Aristotle, but much more plausibly by Hegel, to find Ultimate Reality in "Reason" is one of the great mistakes in the history of philosophy. Hegel's 'romance of the infinite,' as Rénan calls it, served to elicit incidentally much superb thinking. But the worship of the Concept has ended by revealing the Concept's defects. The richness of concrete feeling was thrust somehow into the background—there resulted the suspicion of a concealed dualism, with the position of one factor therein (feeling) left obscure, and by degrees the artificiality of this arid intellectualism has made itself fully felt. Belief in the "Universal" as more than an invention or acquisition *post rem* is now menaced. Observe,

[1] *Cf. Individual and Reality*, p. 274 *et seq.*
[2] *The Pathway to Reality*, p. 240.

by the way, that the attempt to articulate Universals on Hegelian lines leads to disaster when "afterwards tested by and adapted to the facts of experience"—I am citing Haldane again in a novel connexion! The "contingency" admitted by Hegel to colour Nature—the "bacchantic" [why?] god—and history marks the refusal of reality to accept the hypothesis of the dialectically articulated Universals of Thought.

The Ground cannot, of course, be regarded as Will. Will is altogether too thin an abstraction, even were there not other and insuperable objections to this line of thinking. And there are those who may urge that it is idle to attempt to liken the Ground to any aspect of the processes of our psychical life. But if we are determined to detect a close resemblance between the activity of the Ground and human mentality, we shall do well, perhaps, to describe the former as an intuitive Cosmic Imagination. For note that *from Imagination it seems practicable to derive all appearances*, while if you try to "deduce" anything (*e.g.* Krug's pen) effectively from Reason or Will or a unity of a Logical Idea and Will or what not, you fail utterly. Thus when Schelling discussed Nature as unconscious "immature *intelligence*"—there being supposed a giant cosmic reason which lies petrified in objective being—he was on a wrong tack. For the processes, inductive and ratiocinative, which are named, and too often hypostatised as, "intelligence," imply a highly selective attention and are far removed from that concreteness which Nature presents. But if Nature be viewed as a phase of the ever-changing cosmic imagination—why, then, you have all the living detail, storm, and stir of the wonderful reality, known and transcendent alike, fully provided for.[1] Real Nature is not the ridiculous phantom of "extensions," "resistances" and "forces" so dear to mathematical fiction. It is not simple but indefinitely complex, and it is aglow with the secondary qualities. We need to seek patiently for the secrets of the inmost shrine, but we are sure that Cosmic Imagination can house all possible detail, however complex. Note that in this Imagination-Nature we can place the *concrete psychical equivalents*, rich with all their 'secondary' qualities, of all the validly-inferred "ultimates" of speculative physics and chemistry.[2] And so on. In the regard, then, of Nature

[1] Mr. Morrison points out to me the following remarkable passage from the works of the mystic Eliphas Levi. "It is by imagination that we see and this is the natural aspect of the miracle, but we see true things and in this consists the marvellous aspect of the natural work." The "true things," I suppose, refer us to objects in the Cosmic imagination.

[2] *Individual and Reality*, p. 117 *et seq.*

we may well suppose Imagination as the primeval reality, itself unresolved, into which all else can be resolved; and in place of a dead 'intellectual' schematism, we appeal to a principle of a plastic and creative sort fully adequate to the life and indefinite variety of the facts. With respect again to the rise of human experience in connexion with organism, we seem, pending more adequate treatment of the problem, entitled to say this. There is, at any rate, no difficulty in explaining the rise of the subject and object experience without appeal to a mythical chorus of "rational" categories—to 'universals of thought' which are held to inform feeling.[1] "Judgment" in general need not dismay us, for, after all, what is predication "but the adult form of that self-same faculty of sign-making which we know as indication" (Romanes). Judgment stands on selective attention—such attention resulting primarily from struggle and being at first enforced *for*, and not *by*, the purposive life of the finite Centre.[2] That which is attended to stands out of an *alogical continuum*, not a "continuous system" *of thought*.[3] "Reason," again (a word which refers us merely to the psychical processes which issue in inference, ratiocinative and inductive), presents its peculiar *novelties*, as soon as it leaves concrete imagery behind and becomes symbolic. But in its more concrete forms in the 'practical inferences' of animals and men we note clearly the stages from which it arose. Such inference, as I have urged elsewhere, is primarily just imaginative supplementation of sense attended with belief.[4] And in scientific and philosophical induction itself, be it noted, we have, as Haldane observes, to "frame *imaginative* hypotheses" which are tested, or ought to be tested, by experi-

[1] *Individual and Reality*, pp. 180-196. [2] *Ibid.*, p. 192.

[3] "Experience is a continuous system confronting the individual and knowledge is the making parts or phases of this system definite by selective attention."—Haldane, *The Pathway to Reality*, p. 296. But "Universals" are not presupposed by the Continuum!

[4] Mill urges in respect even of a train of reasoning (a much more elaborate affair than a simple practical inference) that "If we had sufficiently capacious memories and a sufficient power of maintaining order among a huge mass of details, the reasoning could go on without any general propositions". Quite so, and consequently entirely aloof from alleged syllogistic forms which are rather ways of testing inferences than ways of making these.

In the hypothetical case of a superhuman being forecasting the future, a concrete constructive imagination of all the details would prove ideally satisfactory. Symbolic reasoning may be merely a human makeshift, after all!

Logic may not improperly be regarded as a branch of psychology: treating of the psychical processes which issue in inference with special reference to the exigencies of proof.

ence. It is this *plasticity of imagination* (which appears so often and with such wonderful concreteness in the life of even rude 'practical' folk) which constitutes, perhaps, the most valuable feature of the human mind as linked to progress. I need not discuss specially that abstract aspect of our purposive activity termed "Will"—an imaginative content is implied obviously. To will is to strive to make more real, if only within the sphere of reverie, a change already present, feebly, in imagination.

If we pass on to consider the artistic side of human activity, with its conscious production of beautiful novelties which are ends in themselves, we have to put an embarrassing question. It is easy to suppose that we are continuing within our small territories a *creative* work such as the Giant Cosmic Imagination is realising on the great scale in all quarters throughout Nature. But I am entirely at a loss to comprehend how those who accept the theory that "Reason" is prius, contrive to "deduce" artistic creation from it. One can speculate as to how "Reason" grows out of a constructive "Imagination," but to try to derive such imagination from "reason" seems a vain thing.

The hypothesis of the Ground as Imagination which has shaped and is shaping itself slowly into all else of which we have, or are to have, knowledge, is alluring. It has a most important bearing on many obscure discussions which have parted metaphysicians. And it suggests that we belong to a universe which is active in the direction of creating an ever richer and more satisfactory life-content. In this, perchance, lies our surest guarantee that in the long all will be well with the worlds and the myriads of finite centres who now, alas! all too frequently find conscious existence a cheat.

IV.—DUALISM, PARALLELISM AND INFINITISM.

By Alfred H. Lloyd.

Human history always appears to him who looks back upon it to fall into special periods or ages. The stone age, for example, and the iron age and the bronze age and the ages of steam and electricity are well known. These ages, too, like all ages, may be said to be salt ages, if not literally, at least figuratively, that is, in the important sense that the historian needs always to take their specific characterisations *cum granis salis*. The past as past can never be seen for what it really was. As past it is a construction of present retrospection.

In the history of thought the recognised ages are characterised, not by physical substances or forces, but by philosophical isms, and it is safe to say that these isms require more salt than all the substances or forces taken together. Thus, in the history of thought there have been, for example, the age of dualism and the age of parallelism; the former covering the period of mediæval Christendom, the latter that of modern Christendom since Bacon and Descartes. And now there seems to have begun the age of a new ism, which in lack of a better name is here to be called infinitism. To this new ism and its relation to dualism and parallelism attention is asked. The latest ism, I suggest, is always the salt with which what has gone before needs to be taken.

The logical as well as the historical transition from dualism to parallelism is a very old story. Yet at least in one respect this story seems not to have been appreciated. Certainly one's understanding of it must depend upon the accepted meaning of dualism itself. Dualism, for example, may be taken flatly, that is, out of any context. It is, then, but a doctrine, metaphysically significant, of two substances, these substances being absolutely different and exclusive, self-existent and independent, and in this character it must sooner or later pass into what we know as parallelism. But

suppose it be given a context. Suppose it be taken, as it may be taken, in the character of an hypostasis of extreme difference. It then becomes the last term of an infinite series that in the other terms comprises all possible degrees of finite difference. As last term it is, of course, peculiar or *sui generis*, for any last term within the formal conditions of a series is only theoretically possible, never practically so, and is accordingly never found or attained, being only posited, asserted or indicated. But, the peculiarity aside, in the context of such a series dualism must have new meaning and its passage into parallelism must also have new meaning. Moreover, with regard to the understanding of dualism here suggested, it does not affect what is now in hand whether the position of dualism be supposed to have been reached quite naively or after careful reflexion. The position may result from an intuition, a leap in the dark, which only subsequent experience has seemed to justify, or it may result from conceptual processes, being a product of long observation and critical thinking; but, however reached, virtually and effectually it may be a last term and, as must be made quite clear and as historian and logician need to keep in mind, in its character of a last term it can be dualism only *cum grano salis*. Thus, is any last term only one more term or is it—in value and meaning—an abstraction for something that, if not quantitatively, at least qualitatively, sums up the whole series? Is extreme or infinite difference just the last single case of difference or is it the summation of all differences, the totality of all the cases of differences? One may take either view and the mere ambiguity is quite enough to make dualism more than a mere flat dualism.

But, again, whether unconsciously or consciously, intuitively or reflectively arrived at, dualism virtually and effectually can be looked upon as a generalisation, given a metaphysical basis, from pluralism. In terms of an only dual multiplicity, which is the general or typical case of difference, it is a unification, rendered into a doctrine of substance, of an infinite multiplicity, and as such a unification it cannot be unmixedly dualistic nor lead only to parallelism, *for its duality is plainly functional, not merely structural.*

And, such being the value of dualism, the contention in these pages is that only as its character of a last term in the series of differences or its very closely related character of a generalisation from an infinite multiplicity is recognised and appraised can dualism itself ever be properly understood or can the familiar transition from it to parallelism ever be adequately appreciated. Also especially it is contended here

that infinitism, in fact if not in name the characteristic ism of the present day, has arisen through a sense, more or less explicit and self-conscious, for the meaning of dualism that has been suggested. Doubtless the basal facts and formulæ of the evolution hypothesis, involving as they do the notion that difference is only through gradation, that opposition or negation is functional not fixedly structural, or that duality is a general relation rather than a metaphysical condition, have greatly stimulated this recent movement of thought. Or, it never being easy to determine the time-order of chick and egg, should I speak of the evolution-hypothesis, not as a stimulus, but as a result? Evolution aside, however, the value of infinitism to recent empiricism or pragmatism, so out of conceit with either dualism or the succeeding parallelism, will in my opinion prove to be great and must therefore have special interest.

In the history of modern thought, to recite very briefly the familiar story, parallelism was early recognised as a necessary conclusion from a consistent dualism. Indeed modern thought must be said to have begun with such a vision. The state came to be looked upon as equally real with the church; the natural with the supernatural. The king as well as the pope claimed authority by right from God. In the life of thought induction came to be equally important with deduction, observation and experiment with *a priori* reasoning. In short, philosophically and metaphysically put, two such substances as spirit and matter could not both be real and substantial without being to all intents and purposes one. At least, if both real, they must be co-real and even, as in the seventeenth century Spinoza declared so cogently, only the *parallel* aspects or "attributes" of a single substance, themselves not substantial. Things that were co-real could not be either in any essential respect subordinate to each other, as in the case of one being supposed to be acted upon causally by the other, or wholly independent of each other, as the metaphysical dualist had often wished to make them. Co-realities were necessarily parallel with all the meaning that Spinoza, not to mention Geulincx and many others, came to give the word. Furthermore, if philosophy thus found its way out of dualism, or at least out of an unreasoned dualism and adopted parallelism—or "occasionalism"—it was not long in going still farther. Even Spinoza had compromised a dual parallelism by adding to spirit and matter—or "thought" and "extension"—other parallel attributes of substance up to infinity, but closely following Spinoza came Leibnitz. Leibnitz saw, or seems to have seen, the inner

meaning, the implication or the hidden content of dualism. He had, if I may so put it, a feeling for that from which dualism has been said here to be a generalisation. In a word, indicative of his approach or point of view, he saw a general plurality rather than a single duality or rather than a merely structural duality in the universe. In the confidence of his vision, too, he made that plurality substantial, not "attributive" or "modal," and, in loyalty to what dualism, when thus seen through, must mean, he applied to his pluralism the essential principle of parallelism, making his infinitely numerous substances—or "monads"—analogous or harmonious. Witness the *lex analogiæ* or the pre-established harmony which gave to each monad, however distinct and individual it might be on the score of what was only implicit in it and what was explicit, a part-for-part or one-to-one correspondence with each other monad or with the whole to which it belonged. But in understanding Leibnitz's pluralism or parallelism or dualism it is peculiarly important to keep also in mind his notion of substance as self-active, not just self-existent, and of activity as real or true, not just mechanical, for in these notions the evidence is complete that for Leibnitz duality did mean more than structure. Making plurality substantial and substance self-active and activity real and regarding all of the really active substances as harmonious he virtually treated duality, with its parallelism and all, as a universal function, not a single condition. In doing this, too, he shows himself neither mere dualist nor mere parallelist, but more than either. Including by outdoing either he is, in the sense in which paternity is so often ascribed, the father of infinitism. Any function is always the infinity of some structure.

The history of modern thought thus shows an early, although not fully appreciated, association of dualism with both parallelism and pluralism, and, although less obviously, of infinitism with all three. Among the continental philosophers, the Cartesians, Spinoza and Leibnitz, this showing is very plain, but it is not less conclusive, I believe, with the great representatives of English philosophy, Locke, Berkeley and Hume. To say nothing of the doctrines of Locke and Berkeley, in a peculiar empiricism, experimental as it was rather than passively perceptual or observational, Hume really left the traditional dualism behind, out-running both Locke and Berkeley, and very distinctly implied, if he did not say, that duality was no mere structure, no single condition. The history of modern thought, therefore, affords a fitting background for the present study. Indeed in the pages

that follow nothing may be said which at least in substance some one of the English or the continental thinkers, Hume perhaps or Leibnitz or Spinoza, has not already anticipated. Re-wording, however, is always in order and is not necessarily unproductive. Especially to Spinoza and Leibnitz the writer's debt is large. From this point, however, it is proposed to proceed for the most part independently or at least with the appearance of independence.

Further, as to the manner of procedure, from what was said above of the possible logical value of dualism as well as of the historical associations, it must go almost without saying that a critical examination of the character and meaning of infinity in general, but particularly of the last term of an infinite series, is the first and chief task. Only, with entrance upon such an examination, a certain danger should be recognised in order that, if possible, its peculiar disasters may be avoided. In a study of infinity there is the too easy descent to mathematicalism, whereas philosophy, although possibly more threatened by the tempting analogies of physics, and especially in these days of biology and psychology, can ill afford to lose itself even in the special phenomenalism of so general a discipline as mathematics. Just this danger, then, must be avoided so far as possible, and the writer suggests, whether quite seriously or not he hardly knows, that the fact that only as a layman can he enter the temple of mathematics should do much towards reducing the present danger of mere mathematicalism to a minimum.

Now the proper entrance to infinity is by the door of the really and truly finite. That this door is not closed and locked against all comers, however loudly and persistently they may knock upon it, is quite counter to what has been very commonly supposed. Commonly the finite has been thought to have no connexion with the infinite. The common view, however, seems to have been standing obstinately in its own light, for just that infinite with which the finite has been supposed to have no connexion has itself always been also another finite. The fact is, then, that the finite is a door that opens freely into the infinite. It opens into the infinite as the particular into the universal, the real into the ideal, or the existent into the potential. "Of course," laughs someone, "but such comparisons, instead of affording any proof or explanation, only manifold the problem." The potential, however, must certainly always lose character if not founded upon the existent; the ideal must itself lack reality if it cannot take the real for better or for worse up

into itself; the universal is no true universal, is not general or universal enough, unless actually and unequivocally it embrace particulars; and, as already said in so many words, the infinite is itself *only* finite if it be not *also* finite, that is, in and of the finite, in the multiplicity of things finite, in their intrinsic relationships, in the very finiteness. The infinite is not something besides finiteness, but an inner and essential condition of it.

Language must ever struggle with reality, and doubtless the foregoing seems more verbal than sound or sane. But the infinity that dwells in finiteness or—synonymously—in all structure may be indicated further as follows. In what sense the finite always implies infinity is determined by the fact that infinity, like any negative, must be relative or contextual. A finite line, for example, implies, not mere infinity, but, aside from further implications, hereafter to be indicated, infinite length. Even anarchy or anarchism really means other government, not no government at all; the unknowable is knowable, but not for beings constituted in a certain way, and so on. And, infinity being implied by finiteness and being thus also always relative or in some sense contextual, any finite can be only one term in a series of structurally homogeneous terms among which the infinity itself in some way belongs. The whole series, too, emphatically is an implication of the single, defined term; it is only a manifestation of all that the term itself contains. And the manifoldness of the terms, the difference in degree that goes with the structural homogeneity, and, more than all, the peculiar crisis of the last term, having value of zero or infinity, but of course always a contextual zero or a contextual infinity, are implications that need close scrutiny and that should help one to see what finiteness is and how it is the direct door into infinity.

In illustration there is, again, the infinite line, which was meaningless except as the "limit" to be reached by some operation of aggregation or extension based on some unit and some direction. Whatever else may be said, the infinite line, implied by the finite line, belongs in a series of commensurate aggregates representable numerically as 1, 2, 3, 4 . . . ∞. In the case of the unknowable, too, let one's agnosticism be as extreme as you please, this infinite is not saved by its negative from being commensurate with some finite base in the region of the knowable. Positive knowledge, whatever its formal conditions, be these the conditions of sensibility or understanding or reason, always lies some-

where between ignorance as zero and—so I will call it—intuition as infinity, and even these limits or extremes are made structurally homogeneous or contextual with what intervenes by the subject-object relation with which, whatever their content of knowledge, minimal or maximal, they still do conform.

But now, although emphatically infinity can be infinity only as an implication of the finite and so, as the last term of a series, is at least theoretically contextual with the series's finite or structural base, the indwelling and contextual character of infinity is far from affording a complete account of it. Important as this character is to one's first thought, it only leads to a second thought that is also important. Thus, whenever there is an infinite series there is also what must be called a duality or even a dichotomy. Formally and outwardly, it is true, this may not or even cannot appear, being well concealed in the structural homogeneity or in the differences that apparently are only so-called "differences of degree". The last term, however, the "limit," although said to be uniform with the others, is not real, at least it is not and cannot be real as the others are real, to use a phrase already employed here, as in uniformity with the others it is *only theoretically possible.* Within the formal conditions and positive domain or region of the series the last term, although "contextual," is only imaginary; it cannot be realised or found. Again, while it must belong to the series, it can never find a place in the series. It is of the series, yet never positively in the series. And just this of-but-not-in condition of the last term makes the duality and the dichotomy, and in doing this brings to light the further implication of finiteness above referred to.

Theoretical possibility, or imaginary character, that seems at once to give and to deny the last term to the series, the infinite to the finite, is itself an idea that might very well be made the subject of a long treatise, but, without prolonged discussion of it now, evidently it must mean the immanence of something which is, although immanent, yet formally unlike or different in kind. The only theoretically possible, or the contextual at infinity, is the real and even in some sense the present yet formally impossible and, accordingly, as possessing both (1) a term or terms that are only theoretically possible and also (2) terms that are practically and positively so the series is dual. The series is, to use a mathematical term, two-dimensional, for I understand the essential point about dimensions to be difference in kind, but such difference in kind as involves real though not formal unity or con-

tinuity.[1] Theoretical possibility, again, must mean real though not formal continuity, and infinity as having such possibility is thus something like wholeness or completeness, being necessarily continuous with any of its finite parts but not formally or literally like any of them.

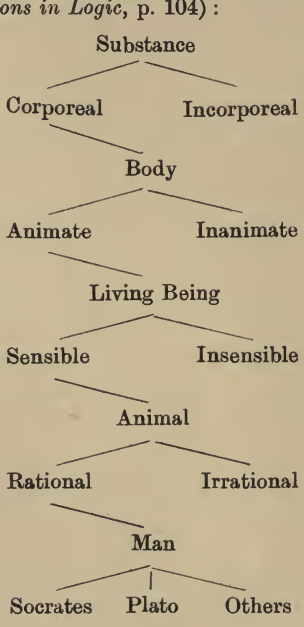
So much then for the mere duality of the series. But how about the dichotomy? Symbolically put, any series, say an *m*-series, *m* being the structural base or form, may indeed be dual in that it involves some other term or dimension, that is something qualitatively different from *m*, say *n*, but why go farther than this and insist that the *m*-series involves, not merely *n*, but also, completing dichotomously the universe of discourse, not-*m*, which of course would include *n* and *o*, *p*, *q*, *r*, . . . *z*? The reason is not far to seek, although for understanding of it one will need to recognise a certain elusive meaning and ambiguity in the term not-*m*. Thus not-*m* may stand for *m* at zero or *m* at infinity; it may stand and, if the negative be real, not merely formal, it must stand also for something other than *m*, as when it is taken as including *n*; and it may or in its fullest implication it must stand, not merely for *n*, but for all, including *o*, *p*, *q*, *r* . . . *z*, that is not-*m*. Of these three meanings the first is plainly formal, though negative, to or with *m*; the second recognises the duality already explained, and the third is dichotomous; while the three in the order given show a progressive unfolding or explication of what negation must always imply. The reason for insisting on dichotomy as well as duality in the *m*-series is, then, simply that any duality, any group of two things formally or qualitatively different, must imply more than just its own simple case of difference. It must imply difference as a general principle or function, the *single* difference and the duality of *things* working together for extension of the differentiation. The difference also, as well as the things, must be dual. In short, the symbol not-*m* is no mere zero; it is not merely an account of *m* as infinite or say as big or small beyond recognition; and it is not just *n* as something other than *m*; but, significant and essential as each of these meanings is, it is far more comprehensive. Even because it has each of these meanings it must complete the universe.

All of which is quite abstruse, but some exemplification is to be found in the familiar Tree of Porphyry, which besides affording examples, will also suggest a very important addition

[1] Say, not formal or structural continuity, but continuity that is expressed only functionally.

to what has been said. In the Tree[1] any general class, say body, shows that the included negative, inanimate, although negative, is still, if not formally, at least really contextual with the included positive, animate. The general term body insures the contextual character. But, also, besides doing this and besides making the pair of terms, animate and inanimate, virtually a summary of an infinite series comprising terms that range all the way from one term to the other, it shows, as immanent in the series or in the negation or differentiation of the series, something formally different from the series's own particular terms. Thus the general term, body, both unifies the series and at the same time, true to the principle that the general can never be qualitatively like any of its particulars, represents the presence of something different in the series. In the symbols already used, the m-series, m comprehending all degrees of animate, contains n, n being body or the corporeal. Moreover, the negative, not-m, or inanimate, must be said, by implication, to comprehend what lies below, namely, the series of sensible beings, not merely the corporeal that lies above. As already suggested, a negative term in any context must imply both zero and infinity, both the infinitely minimum and the infinitely maximum

[1] Although probably quite unnecessary, I reproduce here a very simple diagram (Jevon's *Lessons in Logic*, p. 104):



among its meanings, and this is to give to all negation a peculiar duplicity, a motive or movement that is *at once* towards the general and towards the particular. Still, at least for the moment, the implication of the general in all negation, making of negation as a logical operation a process of generalisation, is that to which I would call special attention, and is, besides, the additional suggestion that was foreseen at the beginning of this paragraph. Thus, *n* is not merely not-*m*; *it is some other thing that all things in the m-series are.* With much the same meaning the limiting term of any series, which always is a negative term, is only an abstraction of that general thing which has found expression in every preceding term. In the series: 1, 1/2, 1/4 . . . 0, the last term being contextual although zero is, so to speak, just half without being the half of any quantity; but also *all* the other terms are halves. In the series, again: 1, 2, 4, 8 . . . ∞, the last term, of course only theoretically possible, is a double without being so determinate as to be the double of any determinable quantity, and all the other terms are doubles too.

So the Tree of Porphyry has done us good service. In giving evidence about *m* and *n* it has shown a series to be contextual from end to end: to be also, because of the negative or the infinity, dual or two-dimensional, and in its negation to involve the distinction between the general and the particular, the second dimension, *n*, representing not merely something different from *m*, but something that all *m*'s, from the maximum to the minimum, really are. In the Tree, too, taken as a whole instead of merely with regard to one of its typical episodes, the dichotomy, *m* and not-*m*, is fully exemplified, in the sense, once more, that the term, not-*m*, besides having its value as a zero of *m* and its value of *n*, has also a value that comprehends *all* other things besides *m* and *n*, namely *o*, *p*, *q* . . . etc. or if *m* be the animate and *n* the corporeal, animal, living being, substance, and so on. Now, however, I think it possible to find additional evidence or illustration in a very different quarter, namely, in Euclidean or three-dimensional space. To use the Euclidean space in this way obviously is to assume primarily that the angle or at least the right angle, which differentiates the dimensions, is, so to speak, the spatial analogue for distinct difference in kind and that, while the first and second dimensions are lines that determine a certain plane, the plane being the region of all possible relations of the two dimensions, the third dimension, not of course as just one dimension among the others, but as *third*, is not a line but a plane that is at a right angle with the plane of the

first and second dimensions. There is also the assumption that the Euclidean space in its completeness is an incarnation or, more exactly, a setting in a medium rather formal than material, of what I will call *the logical whole in extension*, the idea of this phrase being that beyond three dimensions the multiplication of differences—in spaces, for example, of 4, 5, 6, 7 . . . ∞ dimensions—can be only so much internal analysis and explicitation of what the three dimensions have already embodied. But these assumptions do not strike me as too bold nor as calling for any apology because of their Pythagorean hue.

As to the three-dimensional or Euclidean space being the logical whole in extension I can further explain my meaning by a remark or two upon the simple progression of numbers 1, 2, 3 . . . Of course this progression may have meaning, in a very formal and abstract way, as only so much addition or uniformal extension, and in this meaning the straight line $\frac{1}{,}\ \frac{2}{,}\ \frac{3}{}$ . . . affords an excellent representation of it, but numerical progression really implies more than this. The numbers although capable of abstraction from either point of view, are dimensional as well as quantitative. Their progression, in other words, involves qualitative as well as quantitative variation. From the standpoint, then, of dimensions, each new number in its order and context must have peculiar meaning and in the series: 1, 2, 3, the development of meaning is special and distinct in the sense that beyond 3 the numbers may only amplify and intensify by all sorts of analysis and variations what this basal series has, so to speak, already achieved and defined. Beyond 3 the development of meaning involves no new elements or factors. Again, with 3 there is the completion of a certain circuit in the movement of thought, in the progression of number-meaning, and from 3 on, although each number gives new quality, the movement, formally, is repetitious, suggesting the imagery of a spiral or better the qualitative variation that comes from rotation. Thus, to illustrate rather crudely, 4 is only another 2, albeit a different 2, being 2 times 2 or 2^2. Or, as 3 + 1, 4 is a result only of an operation already expressed in 2 + 1, the union of plurality and unity, but not in 1 + 1, the original or basal expression of plurality. 5 is only 2 + 3; 6, 2 times 3 or 3 times 2, and so on. And here doubtless some one must protest that all this is mere logomachy or number gymnastic. So, in truth, it does seem. Yet I cannot see only that in it. My suggested interpretations of the numbers in respect to their logical

value or quality, that is in respect to their peculiar meanings as determined by their different places in the progression, indeed may not be the correct ones or the best ones, but they must at least indicate the sort of thing I have in mind and for that sort of thing there must be good ground and warrant. Dimensions *do* represent qualitative difference and, this being so, the series of numbers must be capable of a dimensional interpretation, up to 3 in extension and beyond 3 in intension, because, again, beyond 3 the progression lacks the peculiar novelty in extension belonging to the variation of the first three numbers. The Euclidean or three-dimensional, rectangular space is thus, to repeat the phrase, the logical whole or base in extension.

But each of the three dimensions of Euclid's space needs some exposition. In the first dimension we have embodied, or set, the idea that definition, any definite thing, implies uniform or homogeneous multiplicity, that is, a contextual series of things differing only quantitatively. In fact, were I a poet, seeking positive imagery for such difference or such multiplicity, I should certainly select the straight line—beautiful presentment that it is of simple uniform variation and multiplicity. The second dimension, a line perpendicular to the first, embodies the idea that any uniform series as a series implies something not uniform with its findable or finite terms but qualitatively different from these, and the plane, determined by the first and the second dimensions, is only the field of all possible relations, the region or sphere of all functional variations, between these two dimensions or it is, say, the duality of the series in its complete extension. Lastly, the third dimension, perpendicular to the plane of the first two, expresses compounded difference or difference of difference; a somewhat blind phrase by which I would indicate difference or differentiation as a general principle instead of a single case. The single case of difference is dual or two-dimensional, while the general principle in its extension is three-dimensional. In the symbols used, *m* occupies the first dimension; *n*, the second; *m* and *n*, the plane of the first and second; *o*, *p*, *q* . . . *z*, the third; and *m*, *n*, *o*, *p*, *q* . . . *z*, the region, spatially solid, of all three. A plane, in other words, which is perpendicular to a plane, logically or qualitatively has a different value from a line perpendicular to a line, the difference being just that between a general plurality and mere duality.[1] A general plurality is extensively three-dimensional.

[1] As for a possible fourth dimension, on the rectangular basis of differentiation, which has been assumed here, this would consist in a

And in thus considering the logic of the three dimensions it would be a very serious mistake to forget what was pointed out in the discussion of the Tree of Porphyry, namely, that the negation—or the actual difference indicated by negation or infinity—implies more than just something besides the thing that is negated. *The implied other thing, however different or "other," is also general to that from which it is differentiated.* Thus, the second dimension, *n*, besides having its own distinct character or quality, was also something that all *m*'s were, not indeed formally but really, and in the third dimension, of course the generalisation would be only so much more comprehensive. Doubtless to see this progressive generalisation in the 1-2-3 order of the three dimensions of Euclid's space is not the simple thing which I may seem to be supposing. Moreover, there is also the implication, which some may have questioned, that any dimension or any field, be it of one dimension or of any number of dimensions, when projected to infinity, implies and even realises the next in order, this next dimension always being again not just another, but the explication of something implicit throughout the lower field. But, to explain with an example, addition and subtraction, being operations, as I should say, in a one-dimensional field, do imply multiplication and division, which are two-dimensional and which when they come to use divisors or multiples that are larger than 1, are seen only to generalise and make explicit what the one-dimensional operations may not show but must always involve. Again, the one-dimensional field is a field of mere quantities, or merely component parts and aggregates, while the two-dimensional field, relatively to that of one-dimension, is one of multiples, ratios, areas, sides, and the like. But—and just here lies the important point—*at infinity* any [1] field of quantities or masses is revealed as also a field of ratios. In any

perpendicular to the region of the first three dimensions and the four-dimensioned field, so determined, would be the three-dimensioned solidity made more intensely solid by being, so to speak, turned into itself. Thus, the dimensional fields, in order, would be: for one dimension, the line; for two dimensions, the plane; for three, the geometrical solid; for four, what might be called intensive solidity, a phrase which, as I am disposed to think, would signify material content. Increase the dimensions beyond 4, and, so I should expect, content would be succeeded by force, and so on. But in this note I make these suggestions only as a layman's speculations.

[1] I say "any" here with the thought that what follows really applies to any spatial field, whatever the number of dimensions. Relatively to the next higher dimension the terms of any field, one-dimensional or *r*-dimensional, are quantities or masses, while for the next dimension they become ratios.

infinite series the last, infinite term, only theoretically possible, that is, impossible within the *formal* conditions of the series, is in reality only the constant ratio or function—abstracted from the whole formal series and merely treated *as if* it were one of the terms, just as the general is so often treated as another particular, and this hypothetical term, being contextually zero or infinity in form, thus necessarily stands for the reality, in the series, of something formally different from the series, that is, for another dimension, while the new dimension, thus disclosed by the negation in the infinity, besides being something else, also is something general to the field or region of the series. So is the case, not only for the idea that a new dimension always only realises or expresses an implication of any field carried to infinity, but also for the idea that this new dimension always represents something general to the old field, made quite clear.[1]

The Euclidean space, however, has occupied the centre of our stage quite long enough. This three-dimensional, rectangular space and also the Tree of Porphyry were illustrations introduced to show how any infinite series was not merely dual in its implications but also dichotomous; how it involved, not merely two things, but a general plurality of different things as constituting the universe to which the basal series belonged; and, in showing so much, they have certainly been of great service. Their manifest association of plurality with duality must have its application to the suggestion, made near the beginning of this paper, that dualism involves pluralism. As was then pointed out, duality is functional and general, not merely structural and single, and in its functional or general character it implies plurality and is, as has since been shown, three-dimensional in its extension, involving not only a difference but also different differences. As structural duality is two-dimensional, a functional duality is three-dimensional.

Now, to return to the direct argument of this paper with

[1] There may be added in a note an interesting conclusion from the above. At least what has been said is very near to being an argument, I will not say for the finiteness of space, nor will I say against the infinity of space, but for something like the following. Infinity as applied to space must always involve dimensional variation, not mere quantitative extension. A space of any given number of dimensions must be said in itself to be finite, for infinity would add a new dimension; or, if space be said to be infinite, it can be so only in a sense that takes its asserted quantitative infinity as really meaning qualitative or dimensional variation. For any region, again, whatever the number of its dimensions, there can be no merely quantitative infinity or infinity in mere extension.

a very brief summary, the primary interest was the meaning of infinity and the proper entrance to infinity was said to be by the door of the finite. Any finite was seen to imply a relative or contextual infinite, the last term in a so-called infinite series. This last term, "only theoretically possible" within the formal conditions of the series, was nevertheless a reality of the series and was properly spoken of as immanent in the series. Further, being immanent in the series and being also negative, it made the series transcendent of the visible form or base, that is, although formally homogeneous, really dual, the quantitative variations implying also a qualitative difference, and with this duality, when regarded as not merely structural but also functional, plurality was found to be closely associated. Through its negative the series was dichotomous as well as dual, although formally the dichotomy was a more remote implication than the duality. And, for the rest, either the duality or the more comprehensive dichotomy implied generalisation as well as difference. With so much established, then, we may proceed with the discussion of implications of infinity as immanent in the finite.

Thus, besides the implication at once of duality and plurality, there is that of what I will call a possible or working parallelism between any two things in the universe. Any two different things, being like so many dimensions, general to each other as well as different, must be bases or varying terms of two parallel and, so to speak, mutually involving or penetrating or dove-tailing series, which develop quantitatively in inverse orders. The two series are parallel in the sense that for any term in the one there is always a special term in the other, the two having a term-for-term correspondence; and this, although in the typical case, while one proceeds quantitatively from zero to infinity, from minimal to maximal presence or prominence, the other in functional order proceeds from infinity to zero. As for the dove-tailing, this is only a figure with which to express the real immanence, involved in the functional relation, of each thing in the other, and as for the quantitative inversion this only marks or even measures the qualitative difference between the basal things or dimensions of the two series, being in a sense proportional to that difference. Indeed in their parallel quantitative variations certain different things superficially may appear to change not inversely but directly. Still, where there is such direct increase or decrease, the amounts or ratios of change cannot be the same, if the two things be really different in kind. In some degree, indicative of the

difference, one thing must lose, or at least gain less, as the other increases. Such is the logic of real difference, or should I rather say the logic of the merely quantitative comparison of things really different. Between widely different things, however, the practical difficulty of any quantitative comparisons must always be very great. In such a case as that of heat and expansion concomitant quantitative variations are determinable with reasonable accuracy, while in that of crime and food supply or of mind and brain, although the parallelism is just as real, quantitative comparison, however suggestive, can never be very satisfactory. In many instances, also, even a mere term-for-term correspondence may not be evident or even discoverable. But—and this is all that need concern us—the parallelism is theoretically even when not practically possible; it stands for the facts of a real relationship, and it affords a means of investigating that relationship. Hence, as was said, between any two things in the universe there is possible a working parallelism.

Plainly, however, the mere parallelism, however well it works, is only half of the story; the half that is usually told and that being incomplete, makes parallelism seem only a relation between two independently existing things, that is, between two things that stand off, so to speak, hypostatically against each other after the analogy of matter and mind as conceived by the traditional dualists or the Cartesian parallelists. But seen for all that it means, parallelism, besides being possible in the case of any two things, in other words in any case of difference, not merely in that of dualism, really stands for a dynamic or functional relation, not for a relation that is static and merely structural. To see what this means, however, it will be necessary to reflect that in addition to the duality of the infinite series and to the structural parallelism which springs from the duality, there is an essentially antithetical character in the relation of the two terms. This antithetical character, of course, suggested by the inverse quantitative variations, has its very important incidents and makes all the difference in the world to the meaning of parallelism.

To indicate very briefly the deeper logical implications of antithesis,[1] such antithesis, for example, as appears in finite and infinite, real and unreal, cold and hot, good and evil, or—

[1] The discussion here given of the logic of antithesis is only a brief statement, slightly modified, of an article, "The Mere Logic of Antithesis," published currently with this in the *Journal of Philosophy, Psychology, and Scientific Methods.*

recalling the symbols used above—*m* and *n*, expressing the duality of any functional series, I suggest the following as always true of antithetical terms. They are (1) mutually reproductive, (2) double in meaning, (3) "identical," (4) serially mediated, (5) dimensionally different, and (6) parallel. The first of these characterisations springs from the necessary relativity of the terms. Being relative, or "contextual," they must reproduce each other or be, in other words, mixed. Each term must participate in the character of the opposite, or, being party to the antithesis, must also be divided within itself or be a house divided against itself on a similar plan. Thus, given the two parties, conservative and radical, each will have its similar factions. Hard and soft are each similarly differentiated. So are life and death. In short, the reproduction is a law of all antithesis. But, secondly, if thus reproductive, if similarly divided, then the terms must be of double meanings, each having on the one hand a narrow one-sided meaning, and, on the other hand, a comprehensive meaning embracing both sides. Take the last of the cases just cited. Life means both the absence of death and superiority to death or even to any distinction between the two, while death means both the cessation of life and the condition in which one may be said to be even during a so-called life-time if one be not superior to death; and, emphatically, this duplicity of meaning for each of the terms, suggesting, let me point out, a renewal of the antithesis on the plane of the comprehensive meanings, is a consequence typical of all antithesis. Thirdly, then, being reproductive and double, the terms of any antithesis are "identical". Yet their identity, so founded, is plainly not a simple or superficial one. Founded as it is, it must be rather a becoming than a being identical, and with this becoming it must also involve entrance into the comprehensive meanings, and so, even as the narrower meanings are reconciled, renewal of the antithesis. There is thus identification, but at the same time, thanks to the duplicity, also persistence of the opposition or difference. The duplicity, so characteristic of the antithesis, explains both the identity, here asserted, and the renewal. Closely related to the identity, however, there is, fourthly, the serial or functional mediation. This has been indicated already in former paragraphs discussing the infinite series, but, at the risk of some repetition, being reproductive, double and in the sense shown identical, the terms of an antithesis cannot express a cataclysmic difference. Their difference must be graded. Indeed it seems to me that the antithesis can be only the infinite series, or even two complementary infinite

series, short-circuited. Superficially one can always view it as only a brute or flat opposition of two things, each fixed in its own character or value and quite exclusive of the other, but deeply the antithesis has a much larger meaning than that, being more perfectly or more extremely antithetical. Thus an infinitely graded difference, a difference, the extremes of which are mediated by an infinite series, is far greater than what I have called a single cataclysmic difference. Were death, for example, cataclysmically only the absence of life instead of being, as we know it, present even in all life, the opposition between life and death would really be of little account. Somehow a real opposition between the two requires at once difference and intimacy even to immanence. So, again, dwelling especially on this point, in general the antithesis, merely to be complete, to be fully antithetical, to be absolute and truly extreme, simply demands the cumulative differentiation of the graded series, such differentiation always showing by its functional character both difference and immanence. Graded difference, difference in degree, I know, is often said to be no real difference, and, were this true, it could hardly keep company with the antithesis. Degree, however, must not be confused with continuity, as too often it is. Gradation even to infinity is the very essence of difference in kind. But now, fifthly, in being different and yet general to each other, in being formally unlike and yet serially or functionally related and identical, the terms of an antithesis have what is best described as a dimensional difference. Already the test of dimensional difference has been found here to be difference in kind under conditions that make the different things mutually implicative or general to each other.

And so, sixthly, antithetical terms are "parallel," but how different is become the meaning of parallelism from what it was. How surely is parallelism more than a merely structural condition or than a relation between mutually exclusive things or natures. Thus, to appreciate it, one must take into account all five of the facts that have been presented here, the mutual reproductiveness, the duplicity, the identification, the serial mediation and the dimensional difference. One must remember, too, the inverse quantitative variations in the series that are infinite as well as parallel, and the implications, which have been pointed out, of the infinity. All these things make of parallelism only a formal presentation, perhaps a sort of cross-section, of a process in which the antithetical terms actually lose themselves in each other or may be said even to be transformed to each other—and yet also,

as they are so lost or transformed, instead of thereby overcoming the antithesis, only renew it on another plane, the plane of the more comprehensive meanings. Parallelism, again, being a relation of antithetical terms, means identification, qualitative variation and renewal all in one. In the fact of parallelism there lies, for him whose vision can get beneath the surface of the mere term-to-term correspondences, not a fixed structural dualism nor even a fixed structural pluralism, but the conservative Becoming of a universe.

Very emphatically throughout the discussions of this paper and particularly in reference to what has just been said about the two parallel infinite series involving at once qualitative transformation of their terms, each being gradually identified with the other, and elevation of the antithesis to another plane, the controlling idea, already given at some length, is this: Infinity, although negative, is always contextual with, or essentially at one with, some finite. Being negative, however, it can be contextual only theoretically, but, as was carefully pointed out, instead of meaning the unreality or the separate reality of infinity or of the so-called last term, this theoretical possibility means the *general* presence and reality of something immediately in the finite but formally different, say of something immanently transcendent or "transfinite". Only under control of this idea has it been possible to treat the distinction between finite and infinite or—very much the same thing—to treat real difference or antithesis as truly dimensional and so to see even different things—without any limit to the number!—as general to each other although different or, conversely, as may now be suggested, to see in generalisation, not a loss of differences, but a process of dimensional amplification and to interpret parallelism as in its mere correspondences only a somewhat formal or at least superficial presentation of the change or "becoming" which such amplification must involve.[1]

But, parallelism and its antithetical terms and all that they imply aside, the fact of immanence, which has proved to be so insistent and so important to the proper understanding of infinity and its various retinue, gives rise to the very important question of continuity. Where difference is dimensional, where even sharply different things are general to each other, where difference in degree means, not of course cataclysmic

[1] Is not one of the corollaries from the above treatment of parallelism that, where the well-known method of concomitative variation is used by investigators, the conclusions reached should be of real transformation rather than of mere *ab extra* causal relation?

difference but supreme difference in kind, in what sense, if in any sense, can one think of continuity?

Perhaps in no question so much as in this of continuity does one find how great is the struggle of language with reality. There is a real continuity and there is a formal continuity. Formally, any series, that is, any group of things that are homogeneous or structurally uniform, may be said to be continuous. Does it not, so to speak, fill its own region and are not continuity and plenitude the same? Any series, then, is continuous *sub sua specie.* But no series is without its other dimension and the effect of the $r + 1$-th dimension is to make the region of r-dimensions broken or discrete, that is, continuous only relatively. The other dimension makes virtual gaps, which, although not of course violating the series's own specific continuity, are nevertheless real, being gaps perhaps rather by metaphor than by literal conformity with that which they disintegrate or, again, being gaps which make room for something formally or structurally different, for something immanent but not like, for something functionally but not structurally identical. Wherefore, although, as was concluded, any series is indeed continuous *sub sua specie*, still, apart from this merely relative view, any series really has both its terms and its gaps, its *plena* and its *vacua.* Only, to say what now may be quite gratuitous, emphatically it is absurd to treat this distinction of plenum and vacuum, or of continuity and discontinuity, as if, diagrammatically it could be adequately represented in this way, for continuity an unbroken line: _____, and for discontinuity a broken line: — — — — — — — —

Even the following straight line, formally continuous but quantitatively determined or measured, thus:

_____, , , , , , ,

is *both* continuous, being so *sub sua specie*, and discontinuous, being so because of the other dimension which its own determinate character implies. In other words, the distinction is no mere quantitative one. There are no gaps or spaces in kind literally between the terms, or plena, of any series. Quantitatively the *plena* and the *vacua* are coextensive, and, if one is to think in terms of the old saying that nature abhors a vacuum, it is, I am sure, important to change very materially the imagery under which this saying is usually understood. As if the vacuum, as so much space or region without content, could be structurally or formally like the plenum, or plena, to which it is antithetical! The plenum itself is vacuous; vacuum is not just something outside of it; and, this being so, an interesting conclusion, throwing much

light on the whole question, follows at once. Thus, there can be no absolute impenetrability of anything. If I may even quote myself:[1] "No single continuum . . . can ever be merely in and by itself so perfect a plenum as to be impenetrable to anything else," and, on the other hand, there is no vacuum "so perfect . . . as to offer no resistance". Vacuum is merely an innuendo for the immanence of something else; it is far from meaning merely the elsewhere absence of something like. Things alike may not mingle; they must be impenetrable to each other and so must probably fall in the rigid order of some series, but things really different not merely are mutually penetrable but also are always mutually penetrated, always, so to speak, occupying each other. So, finally, although I hardly know that my words will be understood, if the question be of absolute continuity, then one can say only that the absolute continuum is both a very heterogeneous and a very animated mass, dimensionally differentiated, whose differences are as real as they are coextensive or as qualitative as they are general to each other or functional with each other and whose nature forbids any structural stability. Thus it must be remembered that there can be no finite without its infinity, no structure without its function, and no function without both constant qualitative variation and with this at once reconciliation and renewal of the difference.

So, once more in summary, perhaps in needless summary, of the discussion of the meaning of infinity, it was first said that to understand the infinite one must know the finite. The finite just by dint of its own determination was then found to involve an infinite, a contextual infinite. But this infinity, a reality of the finite, made the series, to which both the finite and the infinite belonged, dualistic and also, as the terms were applied, dichotomous and so pluralistic. The series, further, in a sense which was carefully defined, as to its duality was two-dimensional and as to its implied plurality three-dimensional. Apart, however, from any question of number of dimensions, the dimensional character of the differentiation in the series, besides making infinity never a matter of mere quantitative extension, mere quantity or mere extensive space, however large, always being finite, led to an important conclusion in respect to the meaning of the parallelism which the series's duality necessarily involved. The parallelism, defining a relation between any two different things, and being therefore functional rather than merely

[1] See article, "The Poetry of Anaxagoras's Metaphysics," in the *Journal of Philosophy, Psychology, and Scientific Methods*, vol. iv., No. 4, p. 90.

structural, meant, as the findings were put conclusively, identification, transformation and renewal: identification of the original terms, transformation of these to larger meanings, and renewal or persistence of the difference between them as transformed. Then, following this interpretation of parallelism, attention was called to certain significant results to the meaning of continuity. Since gradation and continuity could not be the same, the one implying heterogeneity, the other homogeneity, any series was seen to be discontinuous, that is, made of plena and vacua, and, as the vacua could not be structurally or formally like the plena and were to be thought of not as quantitatively between the plena but even as coextensive with them and so as making them penetrable by whatever might occupy the vacua, the discontinuity of the series only afforded another view of the duality and of the necessary immanence, possibly to be spoken of as the graded immanence, of the two terms or dimensions, in each other. Of course from this conception of immanence, of a mutual immanence in the relation of the series's two terms or dimensions, one would have to conclude a general mutual immanence among all things however numerous, for plurality, as well as the duality of the single series or of the single difference, is dimensional.

Here, then, the particular task of this paper finds its natural end; but not, as I hope, in the depressing sense of a finishing. At the outset it was said that dualism might be taken in the character of an hypostasis of extreme difference, that is, in the character of the last term, of an infinite series comprising for its other terms all possible gradations of finite difference. Again, it was said that dualism might be taken as a generalisation, given metaphysical support or reality, from pluralism or as a unification, rendered into a doctrine of substance, of an infinite multiplicity. Thus all differences or all cases of plurality naturally falling into pairs, were thought of as classifiable under dualism as the one great pair. Very often the One or the Whole has been hypostasised so. But, taken in either one of those ways, the duality of dualism, as was distinctly asserted, could not be merely structural, as if a metaphysical *status in quo*, although man's habit of easy hypostasis might insist on making it so; it would necessarily be functional also. If, however, the duality were functional, infinity always representing the participation of some structure in a function, then dualism and, if dualism, also parallelism would find, not indeed refutation nor supplanting, but realisation or fulfilment in what, as was

rather boldly suggested, might be called infinitism, which was said to be in fact if not in name the characteristic ism of the present time.

And the case for this infinitism—for the idea, not the name—has now been presented, at least so far as the foregoing account of infinity or of the infinite series, and its important implication can constitute a case. Perhaps the direct evidence has been rather that every series is dualistic and even parallelistic than that dualism itself is the last term of a series, but I doubt if any one will find cause for objection to my indirection. The obvious conclusion from all that has been said that pluralism is only the supreme dualism, parallelism and all, tells the story either way. And, as to duality being functional, let me point out, even with repetition, that this must mean, not merely that dualism or parallelism is a relation of *any* two things in a pluralistic universe, but also that as such a relation in each and every case it must involve—else the story of its functional character were only half told—those three deeply important incidents of dualism or parallelism, the identification, the transformation and the persistence. A function can hardly be supposed to be wholly external in what it implies to the things which constitute its terms and, if nothing else, those three incidents show how internal as well as external it and its relation are. Thus, for just one more word, a pluralistic realism, often so keen about external relations, very properly may find some comfort in many of the contentions and conclusions here set down, but throughout there has been something in mind besides either pluralism or realism.

V.—THE 'MEANING' AND 'TEST' OF TRUTH.

By J. W. Snellman.

The pragmatic theory of truth has been charged by Mr. Bertrand Russell with confusing two different conceptions, namely, those of the meaning and the test of truth. In his *Philosophical Essays* he has given a very lucid criticism of pragmatism from his peculiar standpoint. Even if truth is *tested* by usefulness, what we *mean* by truth is still a relation of agreement between thought and its object which cannot be interpreted in pragmatic terms. When we are considering the nature of truth logically the question of how we discover truth is quite irrelevant. It may be admitted that purpose, will and feeling determine what *we call* true and false, but this has nothing to do with the *meaning* of truth which cannot be defined in any other way than simply as agreement between thought and its object. Truth consists in this relation, and it is therefore to confuse two different things to say that the meaning of truth has to be defined by the test of truth.

Pragmatists, however, will contest this reasoning. They deny that in any usable sense of truth the 'test' and the 'meaning' can fall apart. The 'meaning' which is left to truth when we eliminate the 'test' becomes purely formal. Truth is taken to be merely a relation to an object, and all further inquiry into the nature of this relation is thought to be irrelevant to the question of the meaning of truth. But this is to deprive truth of all meaning and not, as the intellectualists think, to give a warrant for its meaning. If nothing else is said about truth than that it is a relation of correspondence between thought and its object, no distinction is made between truth and error. For *all* assertions claim that they express such a relation, and only some *claim* this justly. Mr. Russell answers that his intention was not to give an account of the test of truth, but only to say in what truth consists. We may use the pragmatic test for distinguishing truth from error, without denying that the meaning of truth is something else.

But can we by the test, which remains pragmatic, know when our assertion agrees with its object in a sense which is not pragmatic? How can we, in other words, know whether our assertion is true in the right 'meaning'? Is it not impossible that the pragmatic test of truth could give a 'meaning' to truth which is a denial of the pragmatic conception of truth? Thus the intellectualist 'meaning' of truth becomes unverifiable, if it is deprived of its pragmatic criterion. Whatever is asserted now becomes 'true,' when truth is taken formally. Therefore, the separation of the 'meaning' of truth from its test makes it impossible to account for truth as opposed to error.

I will now pass to a detailed examination of Mr. Russell's position. The two chapters in which he deals with pragmatism are both reprinted from periodicals, and their chronological order is reversed in the book.[1] To the first article both Dr. Schiller and Prof. James replied.[2] But the essay on "Pragmatism" still repeats the same fundamental mistakes, though in a somewhat milder tone.

In this essay Mr. Russell states that it at first might seem correct to inquire what the test of truth is and to infer that it constitutes the meaning of truth. But, he continues, this depends on a confusion due to the ambiguity of the word 'meaning'. And the ignoring of the different senses of this word is a fallacy which is at the bottom of the whole pragmatist philosophy.[3] These contentions are illustrated as follows. We may say "that cloud means rain," or we say "*pluie* means rain". In the former case we infer from the existence of one thing to the existence of another; in the latter again we think what a person has in his mind when he uses a certain word. About this sense of the term Mr. Russell says: "In the second sense 'meaning' is confined to symbols, *i.e.* words, and whatever other ways may be employed for communicating our thoughts. It is this second sense of meaning which we expect a dictionary to give us." Now pragmatism has in its account of truth made the mistake of confusing these two senses of 'meaning'. It has found out the test of truth and thinks that this is the meaning of truth in the second sense. "Thus pragmatism does not answer the question: What is in our minds when we judge that a certain belief is true?" [4]

[1] The latter was published in the *Albany Review*, January, 1908, the former in the *Edinburgh Review*, April, 1909.

[2] Dr. Schiller's reply appeared in the *Albany Review*, March, 1908 Prof. James's in his *Meaning of Truth*, in the chapter called "Two English Critics".

[3] P. 109. [4] P. 110.

So the author tries to maintain that the 'meaning' of the term truth is to be defined in a purely verbal sense. This procedure can only yield, as he himself sees, a 'dictionary' meaning of truth.[1] But he is quite mistaken in supposing that this is what pragmatists were trying to discover. It is something they are well aware of, but regard as quite trivial and therefore utterly unsatisfactory. The only 'meaning' they consider worth discussing is one which will in fact distinguish the 'true' from the false. Now Mr. Russell has a certain sympathy with their attitude. He approves the use of the pragmatic test of truth as a means of discovering whether any assertion is in fact true or false, but holds that it is compatible with his definition of the meaning of truth. He expressly states that he admits the influence which feeling has upon our actual thinking; nevertheless he denies the relevance of this fact to the 'meaning' of truth in the abstract. Thus he says about the pragmatist doctrine of the influence of desire upon belief: "with this account we have no quarrel; what we deny is its relevance to the question: What is meant by 'truth' and 'falsehood'?"[2]

Mr. Russell's whole position arises out of the fact that he has never perceived any problem in the notion of the 'meaning' and the 'object' or 'fact,' in a relation to which truth according to his theory consists. He has in consequence ignored the problem of truth as pragmatists conceive it, and left it entirely unsolved. As has been pointed out to Mr. Russell himself by Dr. Schiller and Prof. James, his theory gives no account whatever of truth as opposed to error. The 'truth' is purely formal; it is only the dictionary meaning of the *word* truth. It is common both to assertions which are really true and to those which only claim to be so, but are not. How then can the 'meaning' of truth consist in something which does nothing to distinguish truth from falsehood, but is common to them both alike?

But, Mr. Russell will answer, the 'meaning' of truth has not to distinguish truth from falsehood. This is the task of the test, which may be taken pragmatically. However, if we admit that truth is known by usefulness, how can we infer that the meaning of truth is an inexplicable relation to 'fact' which cannot be interpreted in pragmatic terms? The facts in a relation to which the 'meaning' of truth is said to consist, cannot, it seems, be known pragmatically, and the assertion thus becomes arbitrary and truth unknowable. If 'truth' in the intellectualistic sense has to be

[1] P. 109. [2] P. 108.

known, this cannot be effected by using the pragmatic test or indeed by any test at all. The facts must be somehow given in such a way as to need no further testing. All pragmatic testing thus becomes irrelevant and superfluous. But this leads to the conclusion that whatever appears is *ipso facto* true. If we once take the meaning of truth in the intellectualistic sense, we are bound to reject the pragmatic test of truth, and have only the formal meaning of truth left. This is, as we saw, quite powerless to distinguish truth from error.

If, again, the facts are not given as indisputable, they must be tested, and can only be tested pragmatically. And then the meaning of truth also becomes pragmatic, and the formal 'meaning' is quite irrelevant. The relation to 'fact,' which the formal view takes to be the 'meaning' of truth, is now, when the pragmatic test is adopted, interpreted pragmatically. Pragmatism will help us to distinguish between true and false claims on 'truth,' and to repudiate the merely formal definition.

Mr. Russell's position is inconsistent because he tries at the same time to use a test for distinguishing truth from falsehood and to state the 'meaning' of truth without reference to this distinction. He gives truth a merely formal 'meaning,' and yet admits that truth is known by usefulness. But how is such a combination possible? Is it not both to deny and to assert the pragmatic test of truth? When the meaning of truth is taken formally and therefore as independent of all testing, how can the pragmatic test at the same time be accepted? If a relation to given 'facts' is the 'meaning' of truth, what can be the function of a further test of truth? That Mr. Russell's conception of 'fact' is quite uncritical is best shown by his attempt to combine this notion with a test of truth which cannot admit validity as self-existent. Either there is no difficulty about the notion of 'fact,' and there is no need for any pragmatic test; or else what comes as 'fact' has to be tested, and then the notion is to be interpreted pragmatically. In the latter case the formal use of the notion becomes irrelevant to the problem of the real meaning of truth.

Mr. Russell is sometimes himself compelled to admit that the pragmatic test of truth is not compatible with his notion of the 'meaning' of truth. To show this I will quote the following passages from his book. First he grants to the pragmatist "that what causes people to judge that a belief, about which a doubt has arisen, is true is the fact that this belief is found to further the purposes which led us to inquire

into its truth".[1] This is the 'meaning' of truth in the sense in which 'cloud' means 'rain'. Further on he says that the pragmatist, confusing the two senses of the word 'meaning,' "is led to argue that usefulness gives the *meaning* of truth, and that therefore when a belief is useful it must be true".[2] In the latter part of this sentence Mr. Russell not only falsely attributes to pragmatism the simple conversion of the proposition "all truth is useful," but clearly asserts that usefulness cannot be the meaning of truth in either of the senses of this word. That this is his meaning is shown by the continuation of the argument. He says that the consequence of the psychological doctrine of pragmatism is that useful beliefs are *thought* to be true. "This is an entirely different proposition, and one which, by itself, throws no light whatever either upon the nature of truth or upon what beliefs are in fact true. It may well be . . . that there is no connexion whatever between truth and usefulness."[3] Here he holds that usefulness cannot even be the test of truth. And if actual thinking is still supposed to proceed on pragmatic principles, which Mr. Russell admits when he says that beliefs are thought to be true *because* they are useful, our truth and the test we use for it are not genuine. Moreover real truth becomes unattainable, because he first asserts that thinking something true depends on usefulness, and then says that this process cannot decide what is "true in fact". The sceptical conclusion that real truth is unattainable because we never attain more than pragmatically valid truth tested by usefulness, follows inevitably from the premises.

Mr. Russell's illustration of the twofold sense of 'meaning' rests on a natural, but false, analogy. In the case of cloud and rain we have two happenings, the former of which is not exclusively dependent on the latter. The cloud can be experienced even without the rain. But this is not the case with truth: it cannot be known without the test. They can be separated only by dogmatically asserting that truth has no other meaning except the 'dictionary' sense. Mr. Russell's formal view comes out clearly when he says the meaning of truth is of the same sort as '*pluie* is the meaning of rain'. He is dealing only with the meaning of the *word*. But if this is taken as the only and ultimate meaning of truth, and all further definition is excluded, the question "what is truth?" becomes utterly trivial, and one which no pragmatist will desire to discuss.

[1] P. 110. [2] P. 112. [3] Pp. 112-113.

Mr. Russell's view of the 'meaning' of truth explains also some of his other misapprehensions, *e.g.* of the doctrine of the ambiguity of truth. He comes to the conclusion that the distinction made by Dr. Schiller between truth-claim and validated truth is a difference between what is thought to be true and what is true.[1] But this is to ignore the crucial question of how we are to know what *is* true. To answer this question does not seem to interest Mr. Russell at all: he simply fails to see its importance. We cannot distinguish what is really true from what is supposed to be true by defining truth as a formal relation between thought and its object. The example he uses here is again based on an analogy of things taken from the physical world. He states that if the grocer calls margarine butter there is no ambiguity in the word 'butter,' because he means by butter exactly the same as the customer. But how do we distinguish butter from margarine? Not by defining what the *word* 'butter' means, but by testing the *thing* which claims to be 'butter'.

The same attitude is exhibited in Mr. Russell's account of the procedure of the sciences. He urges that there are "truths of fact" which are true in a non-pragmatic sense. Scientific induction assumes certain data, the 'facts,' with which our theories have to agree if they are to be called true.[2] It is quite true that each science has got its fundamental assumptions which it treats as 'facts'. But this does not prove that they are ultimately so, or incapable of being interpreted pragmatically. Mr. Russell again omits to explain how such 'facts' as he talks about are to be known. The formal view of truth taken by Mr. Russell leads him to his notion of the working of scientific hypotheses. He says that "what science requires of a working hypothesis is that it shall work *theoretically, i.e.* that all its verifiable consequences shall be *true*, and none *false*".[3] Therefore the pragmatic doctrine that *any kind* of satisfaction which can be derived from entertaining a belief yields truth has no support in science.[4] We must again ask, whence the 'facts' which have to verify the hypothesis? If they can be known only pragmatically, all 'working' is in the last resort of the same kind, namely, practical.

Mr. Russell thinks that pragmatists themselves at times acknowledge a meaning in truth which is different from its test. He quotes a passage from *Studies in Humanism*, in which Dr. Schiller points out that true and false are in a

[1] Pp. 111-112. [2] P. 105. [3] P. 106. [4] P. 108.

certain sense as ultimate as sensible qualities.[1] About this 'meaning' of truth Mr. Russell says that "it is evident that in the sense in which the meaning of a word is 'what is in our minds when we use the word,' the meaning of the word 'truth' is just that specific character of the truth-predication" which, as Dr. Schiller confesses, is something quite other than "furthering our purposes".[2] This "fundamental meaning of truth" is treated as unimportant by pragmatism, because it does not help us in distinguishing the truth from falsehood.[2] But it is certainly a confusion to think that pragmatism has here made a concession to the intellectualistic conception of truth. When Dr. Schiller speaks of truth as a specific sort of value he does not intend to oppose this to what he has pointed out to be the actual meaning of truth. The 'meaning' which truth has by reason of the 'specific character of truth-predications' is just what is merely verbal and what has to be interpreted pragmatically. In speaking of truth as an 'ultimate fact' the pragmatist does not imagine that he is doing more than recognising a linguistic usage. He does not take it as deciding anything about the real meaning of truth. The merely formal 'meaning' of truth is to him not only unimportant, but not a 'meaning' in any significant sense at all. The meaning of truth as opposed to error is what he is aiming at, and it is certainly indistinguishable from its test. This, however, does not prevent pragmatism from distinguishing different classes of satisfactions or values. Thus we have truth-values, æsthetical and ethical values, and we admit that it is important to distinguish between them. It follows from their primary character that no further explanation can be given of them, but they must simply be recognised, like *e.g.* colours. This is, however, not enough if we try to account for the meaning of truth as opposed to error. To call 'true' and 'false' as ultimate forms as 'red' and 'blue' is in no wise to admit that their application is not to be inquired into further. It might as well be asserted that because 'red' does not mean 'grey' no one could make a mistake in calling grey what is really 'red'.

To sum up: Mr. Russell has tried to conceive the meaning of truth formally, merely as a relation to an object, and at the same time to use the pragmatic test for distinguishing truth from falsehood. This position is doubly untenable; for if on the one hand the pragmatic test is accepted it

[1] P. 110. The passage occurs on p. 144 in *Studies in Humanism.*
[2] P. 112.

makes the real meaning of truth pragmatic, and the formal 'meaning' becomes irrelevant, while on the other if the formal 'meaning' is retained as the adequate meaning of truth, all testing becomes irrelevant, and truth indistinguishable from falsehood. Therefore, if truth is to be distinguished from falsehood, we cannot accept the verbal definition as sufficient. And this is one motive for adopting the only alternative, which is to define the meaning of truth pragmatically. In other words, Mr. Russell has not understood the meaning of pragmatism because he has not perceived the problem which pragmatism has set itself to solve, *viz.* the giving of a meaning to truth which does not *formally identify*, but *effectively distinguish*, the true from the false.

VI.—DISCUSSIONS.

ARISTOTLE AND THE PHILOSOPHY OF EVOLUTION.

Dr. F. C. S. Schiller in his ingenious and interesting work, *Riddles of the Sphinx*, has made some remarks about Aristotle's relation to the philosophy of evolution that seem to me to be open to very serious objections. These remarks already appeared in the first edition of the *Riddles*, and therefore have been before the public for twenty years, but I do not know that they have ever been controverted. At any rate in the third edition (1910) they are reprinted without reference to any adverse criticism directed against the interpretation of Aristotle which they express. And had such criticism been put forward Dr. Schiller would hardly have let it pass unnoticed. What I have to say, then, whether otherwise valid or not, can hardly be objected to as unseasonable or belated.

Aristotle, as is well known, was not an evolutionist in the sense of believing that the present constitution of Nature has been developed out of a different state of things. According to him the celestial spheres had always revolved round the centre of the universe—which is the centre of our earth—as Greek astronomy saw them revolving still. The specific types of animal organisation had been transmitted with no important variation from parent to offspring from all eternity, and would continue to be so transmitted for ever. What was known even then of early history did not indeed permit him to believe that there had been the same unbroken continuity in the civilised life of mankind; but one gathers that in his opinion it had run and would run for ever through an endless series of recurring cycles.

Dr. Schiller is of course perfectly aware that this was Aristotle's theory of the world. As an accomplished Hellenist he must also be aware that the pre-Socratic philosophers held widely different theories, being, in fact, some of them as much evolutionists as we are, even to the extent of formulating the law of evolution as a series of progressive differentiations and integrations. And if Aristotle rejected their theories this was in no spirit of scientific caution—he accepts the monstrous fable that shell-fish are produced solely by spontaneous generation—but from the same crass conservatism that made him refuse to believe in the axial rotation

of the earth, and even of the moon, in whose case it is a matter of ocular demonstration. So far is it from being true that, as Dr. Schiller says, "he rejects evolution merely on the ground of lack of evidence" (*Riddles*, p. 195). He rejects it on systematic, *a priori* grounds. By far the greater part of his universe is composed of the fifth element, the famous quintessence, an eternal and incorruptible substance admitting of no change except rotation in space. Within this is contained the sublunary sphere, a scene of everlasting mutation, consisting as it does of the traditional four elements: fire, air, water, and earth, whose very nature it is to be perpetually transforming themselves into one another as the protyle, which is their common basis, oscillates between the antithetical qualities, hot and cold, wet and dry. The surface of the earth is peopled with animal species which, as I have already observed, are, in Aristotle's opinion, unchangeable through all eternity. And this immutability is no mere fact of experience but an absolute metaphysical necessity. For, according to Aristotle, growth is a transition from what exists in potency to what exists in act, and in the case of a new individual such a transition can only be determined by the operation of a pre-existing individual in whom or in which the transmitted type is fully realised. Thus nothing but a man can produce a man: his descent from a lower animal is impossible.

How then can Dr. Schiller maintain that "the metaphysical implications of the theory of Evolution in its only tenable form were fully worked out by Aristotle" (p. 195)? In the first place by giving what I cannot but consider an unwarrantable extension to Aristotle's idea of Potentiality. As used by Aristotle that idea seems to me no more than a pure verbalism. In order that B may be evolved out of A the process must of course be possible; otherwise B would not have been evolved. But we did not want a great philosopher to tell us that. Why rubbing two sticks together should be followed by the evolution of heat and light is not explained by telling me that there was a potentiality of fire in the wood. It is partially explained by telling me that heat is a mode of motion. In this connexion Dr. Schiller contrasts the excellence of Aristotle's method with what he considers to be the fallacy of "naturalistic evolutionism," which "does not explain the genesis of consciousness out of unconscious matter, because we cannot or do not attribute potential consciousness to matter" (pp. 194-195). But if so Aristotle was all wrong, for he *did* attribute potential consciousness to matter. In order to explain the spontaneous generation of shell-fish mentioned above, he observes that earth contains water, water contains air (*πνεῦμα*), air contains vital heat (*θερμότητα ψυχικήν*); so that in a way (*τρόπον τινά*) all things are full of animal life (*ψυχῆς πλήρη*)—which we may fairly identify with consciousness (*De Gen. An.*, 762 [a], 21).

True, Dr. Schiller's interpretation seems to cover this remarkable

theory of spontaneous generation when he proceeds to observe that, "from the lowest form of matter to the highest form of mind, the lower is the potentiality of which the higher is the actuality or realisation" (p. 195). I have no objection to this statement; but I fail to see how it can be reconciled with the denial of potential consciousness to matter. Nor yet can I reconcile the shell-fish theory with what follows: "It is true, however, that Aristotle does *not* conceive this process from the potential to the actual to be one in Time" (*ib.*). To say nothing of those wonderful testaceans, surely the evolution of individual character and of political organisation—both so well illustrated by the Stagirite—are processes occurring in time. That these should not be mentioned was of course a mere oversight. But the same cannot be said of the immediate context. "And so we ascend by insensible gradations from the first matter (protyle), which is merely potential and never actual, to the Divine being which has completely realised all its potentialities," with this difference, however, from modern evolutionism, that Aristotle "supposes the different degrees of perfection to *co-exist in Space* rather than to *succeed one another in Time*" (*ib.*; italics in the original).

To talk about insensible gradations in this connexion is to confuse Aristotle with Leibniz. There is indeed a serial order in Aristotle's cosmology; but there are points where the different degrees of perfection, so far from being connected by insensible gradations, are separated by impassable barriers. Such, as I have already pointed out, is the distinction between the ever-changing matter of our sublunary world and the eternal quintessence of the celestial spheres. Such within the supernal region itself is the distinction between the planetary spheres and the sphere of the fixed stars, between this last, which still revolves, and the Prime Mover, itself unmoved, which is God. Within the sublunary sphere there are the well-marked distinctions, still preserved by modern thought, between the inorganic and the organic, between brutes and men; in psychology between sense, memory and imagination on the one hand and reason on the other; in ethics between moral and intellectual virtue; in logic between probable reasoning and demonstration; in demonstration itself between first principles and the deductions made therefrom; finally, in politics there is the profound distinction between the ideal State which is ruled by the wise and good in the interest of the whole community, and the actual State which is ruled by the selfish interest of an individual or of a class.

This Aristotelian method of trenchant, sometimes impassable demarcations has more than a merely biographical interest. It is historically of profound importance, having contributed more than any other cause, perhaps more than all other causes put together, to stamp on the French intellect that character of admirable lucidity, combined with a less admirable dogmatism, which has belonged to it ever since the Middle Ages. And just this Aristotelian charac-

teristic has been responsible for the more strenuous resistance offered to evolutionism in France than in any other great European country.

Among the "metaphysical implications of evolution," with whose complete working-out Aristotle is credited by Dr. Schiller, the passage by insensible gradations from one form of existence to another occupies the most prominent place. I have shown that Aristotle's systematic philosophy not only fails to recognise such a gradation but expressly denies it, and led to its continued denial twenty-two centuries after Aristotle wrote. In denying it, moreover, he sinned against the light, for Heracleitus and Anaxagoras, the chosen objects of his most inveterate hostility, might have taught him better things. But this is not all. From Dr. Schiller's point of view, at any rate, there is another almost equally momentous metaphysical implication of evolution still more conspicuously absent from Aristotle. Among the solutions offered to the riddles of the Sphinx by our new Œdipus the most confidently enunciated is the existence of a guiding superintending Providence, proved, according to him, by evolution, alone making evolution intelligible, and, therefore, one might think, entitled to rank as a metaphysical postulate of evolution. Now if I were discussing the question with my friend, Prof. Franz Brentano, I should find myself compelled to prove at length that Aristotle's metaphysics, so far from involving, expressly negates such a Providence. But with Dr. Schiller it is not so. Not only does he thoroughly grasp what seems to me, as to him, the true nature of Aristotle's God, but he denounces it with what is even for him unusual strength of language. "The Aristotelian account of a Deity totally unconscious of the world's existence and unaffected by it, who yet is its prime mover, by a magical attraction he exercises upon it, is utterly impossible" (pp. 430-431). I am not prepared to contradict this damning characterisation of Aristotle's theology; but as that theology happens to be the keystone of his metaphysics and the most definite statement of what Aristotle conceived to be the relation between Potency and Actuality, I fail to see how so crushing an indictment can be reconciled with what must now seem the hyperbolical praise of that previous passage where we were told that "the metaphysical implications of the potential and the actual, *i.e.*, of the theory of Evolution in its only tenable form, were fully worked out by Aristotle more than 2000 years ago" (p. 195).

Once more, taking broader ground, when we remember that Aristotle's theology marks the culminating point not merely of his own philosophy but of all Greek metaphysics, it seems perfectly incomprehensible that Dr. Schiller should commit himself to such a statement as the following: "It is pretty clear that in the time of Aristotle Greek metaphysics were far ahead, not only of Greek science, but also of all but the most recent developments of modern science" (p. 173). Greek science bequeathed to posterity an enor-

mous mass of positive truth, and in addition to this an example of the methods by which so much more truth was to be discovered. And if it accepted some doctrines that we now know to be impossible, can it be said of any of these that it might have been known to be impossible with the resources then available, whereas Dr. Schiller surely implies that the absurdity of Aristotle's own theism should have been evident to Aristotle himself? My own opinion is that Greek metaphysics, so far from being ahead of Greek science, lagged far behind it, and even fatally impeded its progress by expressing its imperfect and provisional conclusions in abstract formulas which were passed off by such philosophers as Aristotle on the men of science as necessary and *a priori* truths.

A. W. Benn.

"REAL KINDS" AND "GENERAL LAWS".

In the course of his able exposition of M. Bergson's fundamental views, in MIND, No. 77 (p. 38), Mr. J. Solomon makes the following important observations: "The 'general law' of the logical text-books is a fusion—by 'endosmose,' as Bergson would say—of the 'law' of modern science and the 'genus' (form, species) of Aristotelian [science]. The two ideas are quite different, though the modern logician . . . often tries to persuade himself that modern science no less than Aristotelian is a search for 'real kinds'. But 'real kinds' imply a negation of the reality of movement; *they* are the one reality, permanent things that maintain themselves generation after generation. Modern science takes movement and change for the ultimate fact and seeks to discover the laws of its stages, that is, the correspondences among those stages; it gives relations; in its most perfect form it gives quantitative relations. Such a relation is 'general,' in our sense, but it is not a genus, a thing, at all. It crosses and confuses all that Aristotle would have thought the most palpable distinctions of genera."

This passage raises some fundamental and debatable questions, —particularly as to the place of Movement, Development, and Teleology, in the Aristotelian system. For our present purpose, however, this is a side-issue, since no one denies that Greek science gave rise to the conception of Nature as a hierarchy of forms or essences whose differences were fixed; and Mr. Solomon's main point appears to be that the idea of 'real kinds,' so understood, and the idea of 'general laws,' characteristic of modern science, are entirely different, and cannot be fused. He refers to myself as one of the writers who endeavour to assimilate the two ideas. I cannot admit that the general logical doctrine, which finds expression more or less imperfectly in my *Introductory Textbook of Logic*, involves in its view of "general laws" a mere fusion of two unrelated and even opposed conceptions.

In a *Note* to chap. v. of the book referred to (pp. 154-156, second or later edition), the idea of "real kinds," derived from ancient science, is examined from the point of view of the modern theory of Development. Just as certain conceptions of modern geometry, involving the "generation" of geometrical figures, enable us to conceive of a "geometrical evolution" of one figure from another, without taking away the meaning of the "real kinds" indicated by the names ellipse, circle, etc., which the Greeks thought to be

absolutely separated from one another; so, in the world of living beings, there are natural divisions, marked off by typical differences which are obvious and clear,—although between them there are margins of debatable ground, as it were, showing transition-forms, and we conceive them as descended from a common stock and as subject to further changes. Species have a relative instead of an absolute stability. And if—since the idea of "real kinds" is not limited to living beings—we take it in its widest reference, and ask what is meant by the "nature" or "essence" of a thing, from the point of view of modern thought, the answer would seem to be in brief that *a thing is what it does*. "To say that a thing has a nature or essence at all, simply means that it is capable of definite modes of behaviour in response to what is done to it. Thus, let us consider some substance which is being used by man for his own purposes. However plastic it is to his designs, whatever transformations he makes it undergo, there remains something that he cannot alter, and which seems indeed to dictate the limits within which his transforming power over the substance shall extend. This is the truth which underlies the ancient doctrine of fixity. There is a 'nature' of the thing, not separate from the changeable qualities, but *revealed in* the qualities as a law controlling their changes in action. Hence to understand things we must make an extensive study of their behaviour, and if possible *make* them act,—experiment with them." [1]

Here we come upon the conception of the "general law," which I must maintain to be simply the expression, in terms of modern thought, of the philosophical truths underlying the Aristotelian doctrine of the metaphysical reality of the γένος and εἶδος, and the Platonic doctrine of the transcendence of the εἴδη (with their mediæval counterparts, *universalia in rebus* and *universalia ante res*). Here of course the question is not what these doctrines meant to the consciousness of Aristotle or Plato or the Scholastic Realists. The question is, I repeat, of the implicit philosophical tendency of these epistemological speculations and of its statement in terms of modern thought. It is irrelevant to object that the modern statement involves an idea which was not part of Aristotle's or Plato's conscious thinking and would have greatly disturbed his general system of the world.

What do we mean by a "law of Nature"? It seems to me that this question must be answered by considering the nature of *experimental science*, and that to define law as quantitative statement of relations is inadequate, apart from an examination of the method by which the statement was obtained. We must distinguish and set aside the meaning of "law" as standing for those great probabilities or moral certainties, based on past experience, that such and such things will occur in the future as they have done in the past; that "while the earth remaineth, seed-time and

[1] *Op. cit.*, p. 156.

harvest, and cold and heat, and summer and winter, and day and night shall not cease". Such laws, or uniformities, are only the starting-points of scientific investigation. The laws that science *seeks for* go deeper than these superficial uniformities. The real laws of Nature, though they never tell us absolutely that anything "must" happen, do tell us that *if* certain things are done *then* certain things will follow. Every scientific experiment is directed by an endeavour to discover or test such a law; it is a question put to Nature to see what she will do if we do certain things. The real laws of Nature are laws with an "if".[1] They do not themselves provide the occasions of their own operation, any more than the major premise of a syllogism can of itself provide the minor premise and conclusion.

This is in harmony with the familiar logical analysis of the universal, hypothetical, and disjunctive Judgments. The truth of the hypothetical judgment consists in its reference to an actual objective system within which it affirms the reality "of such a general law as would, if we suppose some conditions present, produce a certain result" (Bradley). In its purely hypothetical form, such a Judgment lacks connexion with a particular case; in fact it cannot be connected with any particular case at all unless supplemented by a true singular or collective judgment referring to concrete existence. In the same way it may be shown that the disjunctive Judgment, when *used* in the interpretation of experience, implies the reality of a system of orderly relations, as Bosanquet shows, and requires reference to a particular case which is to be placed in that system.

These conclusions seem to involve the recognition of an important element of truth even in the extreme forms of scholastic Realism. Every real law of Nature is *ante rem*, and would never come into action at all if the circumstances to which it is applicable never occurred; on their occurrence, it is *in re*, and waits to be traced by us in the empirical result.

I must confess that the view set forth in the preceding paragraphs seems to me so nearly self-evident that I do not know how to argue it. Science implies the reality of universals. Take the simplest possible instance. One stone falls to the earth when allowed to drop; another does the same. Is there any real connexion? If there is none, then it was a chance coincidence. If a million stones fell to the ground under the given condition, it would be a chance coincidence, and would afford no *reason* whatever for supposing that the next stone would do the

[1] If this statement appears too simple, the following may be offered as its equivalent, in reference to the movements of the most elementary masses of which the physical universe is believed to consist: the equations of motion are differential equations of the second order, involving, therefore, two "arbitrary constants" for each moving atom or corpuscle, and there is no mathematico-physical uniformity discoverable in connexion with these "constants".

same. The events would be independent in their real nature. If on the other hand they are not independent, if there is a real connexion, then it is a real universal. It proves on examination to be a "law". This points to an element in Nature which no consistent Nominalist can admit; though, like Mill, he may endeavour to evade the difficulty by speaking of "uniformities" of Nature. But either the "uniformities" point to real universals—to "laws" in the sense in which we have used the term—or Science is impossible.

The conclusion is, then, that even if we take the extreme and (I venture to think) quite untenable view that Plato and Aristotle, like the scholastic Realists, meant by the universal merely the abstract "class-concept,"—even then, there is good ground for assimilating the ancient doctrine of the reality of universals with the modern doctrine of general laws of Nature.

From this point of view, it is possible to bring out the deeper significance of the Aristotelian theory of knowledge, which is suggestive not only in reference to the valid application of systematised knowledge to unsystematised fact, but even to the process of constructing systematised knowledge on the basis of experience. Aristotle's suggestions as regards the method of the latter process (the problem of "Induction" in the ordinary sense) are contained mainly in his doctrine of the *ἐνθύμημα* and *παράδειγμα*.[1] The method of the former process is essentially the same as the principle of the Aristotelian *συλλογισμὸς ἐπιστημονικός*.[2]

S. H. Mellone.

[1] Mellone, *Logic*, chap. VIII., § 3 (pp. 251 ff. ; second or later edition).
[2] *Op. cit.*, chap. VIII., § 7 (pp. 232 ff., 237-239, 384).

PLATO'S IDEAL NUMBERS.

Prof. Taylor's review of Miss Williams's book on *The Platonic Theory of Knowledge* (Mind, N.S., No. 76) contains some dark hints as to his own views of the nature of εἰδητικοὶ ἀριθμοί. They still figure in our text-books on Algebra, it would seem, "under the very transparent alias of 'figurate numbers' ". They are connected with 'the corpuscular physics of the *Timæus*', and apparently with Pythagorean mathematics. Further knowledge is reserved from us, unless we can gather enlightenment from the works of Theon of Smyrna. But meantime, until we are all initiated, may it not be of some use to attempt a reconstruction of the theory from the pages of Aristotle's *Metaphysics*? Or would Prof. Taylor hold that to be too simple a way? I would venture to suggest that Aristotle's testimony, critically interpreted in the light of the latest Platonic dialogues, will enable us to construct a perfectly intelligible account of the theory of ideal numbers without reading into that theory any anticipation of modern mathematical investigations. The relevance of figurate numbers I entirely fail to understand and should be glad if Prof. Taylor would explain.

It would, I suppose, be generally admitted that Plato attempts to analyse all existents into a material and a formal element. Throughout the earlier dialogues his interest is chiefly in the formal or ideal element, for that alone is the object of knowledge. Plato like Aristotle seeks intelligibility by abstracting from the matter and considering only the form or εἶδος. But he erects these formal elements of phenomena into separate existents, separate, it would seem, not only in the sense that we as knowers can abstract them, but also in the sense that they possess a being of their own of a higher order than the being of phenomena. The εἴδη in fact are χωριστά, and this is the burden of Aristotle's charge against Plato. We have then two classes of existents, phenomena and their formal elements, ideas. But already in the *Republic* we hear of a third order of existents intermediate between these two, namely the mathematicals. (I assume that these are the objects of the third section of the Line, and intermediate in the sense indicated by Aristotle in the *Metaphysics*, 987 b 15. To attempt a defence of this assumption, if it be challenged, would take me too far from my present purpose.) In later dialogues, the *Timæus* and the *Philebus* especially, Plato considers at somewhat greater length the relation of these mathematicals to the ideas and to

phenomena. Once more I must be dogmatic in my interpretation in order to be brief. But the result which in my opinion certainly issues from these dialogues is that the ideas can no longer be treated as the direct formal elements of particulars, but that the mathematicals are intermediate between ideas and phenomena in the sense that they are the direct forms of particulars, while the ideas in their turn are forms of the mathematicals. In the *Timæus* it is the 'entering and departing' forms which enter into the ὑποδοχή, not the ideas themselves. These forms are copies of the ideas and they are identified with the geometrical solids. The fire which is a "such," determines the ὑποδοχή so as to produce "fiery parts" of matter. All these 'fiery parts' have one and the same form, the universal fire which comes to be in different parts of the receptacle (compare especially 49 D-50 C). And this universal fire is equated with a mathematical solid, to wit the tetrahedron. The formal element of a phenomenon is, therefore, in the first place a mathematical object. But that in turn is a copy of an idea, *i.e.* its formal element is an idea. The phenomenon is a product of a mathematical object and a matter, the mathematical is a product of an idea and another kind of matter.

This result is generalised in the *Philebus*—in the theory of πέρας and ἄπειρον. The teaching of the *Philebus* I take to be that all sensible objects, belonging to the class of μεικτά, are products of a limit and an unlimited. Plato refuses to give us a general mark of the nature of the limit, but all his examples are mathematical (25 A and D). Is not the meaning clear in the light of the *Timæus*? The formal elements of particulars are the various instances of the limit—*i.e.* they are the mathematicals. The answer to the difficulty about the absence of the ideas in the *Philebus* classification is surely just this, that in the *Philebus* we do not go so far back as the ideas in our process of abstraction. We are merely analysing the constituents of phenomena, and their formal elements are the mathematicals. Ideas, as we can see from the *Timæus*, are only reached by a further process of abstraction from the matter of the mathematicals.

These results, thus briefly and imperfectly stated, prepare us for the interpretation of ideal numbers. A careful study of the *Metaphysics*, books M and N, can surely leave no doubt as to the identity of ideas and ideal numbers in Plato's latest theory. The only ideas then are ideal numbers with the addition of ideal geometrical figures (the 'things after the ideas or numbers' of *Metaphysics*, 992 B 13-18, 1080 B 25). What does this mean? Surely only that Plato has carried his principles to their logical conclusion. The theory is already implicit in the results of the *Philebus* and *Timæus*. Instead of holding that the formal elements of phenomena were ideas, Plato there said that they were mathematicals. He must now take one further step of abstraction to reach the ideas, but the only ideas will be those of mathematical

objects, *i.e.* of numbers and figures, since these and these alone are the formal elements of phenomena. Abstract from these again and we reach the One, which is the formal element of the ideal numbers and therefore indirectly of everything else.

The way from the dialogues to the *Metaphysics* is clear once we have grasped the significance of the *Timæus* and *Philebus*. All that remained for Plato in his latest speculations, which Aristotle criticises in books M and N, was to elucidate the relation of the mathematicals to the ideas. Leaving aside for the moment the objects of geometry, we may state that relation as follows. Mathematical numbers in their various ratios or combinations are the formal elements of phenomena. But they too must be analysed into form and matter, for they are not wholly intelligible. Abstracting from their matter, we reach the ideal numbers which are their forms, the εἰδητικοὶ ἀριθμοί. These are the product of the pluralisation of the One in the matter which is called the "indeterminate dyad". But—what is more relevant to our present purpose—they are the intelligible or formal elements of mathematical numbers. They are the 'ideas' of these numbers, which in turn are the 'ideas' of phenomena. Instead of the *Republic* order of existents, phenomena, mathematicals, and ideas, we now have phenomena, mathematicals and ideal numbers. Plato has seen that the only 'ideas' necessary are those of numbers. All others are superfluous, for the form of a particular horse (*e.g.*) is not an ideal horse, but rather certain mathematical relations of figures or numbers. A particular horse is the arrangement of a given matter in certain ratios or figures which may be mathematically expressed. This is only another way of stating the familiar doctrine of Plato that our first attempt to understand phenomena, or render them intelligible, must be through the study of mathematics. But we cannot rest at the mathematical stage. Thought is not content with the imperfect intelligibility of mathematical numbers. It passes farther back to the ideal—back from the third section of the Line to the fourth. But the relation between these two sections has now been made clear. The 'ideas' in the fourth section are no longer the ideas of objects in the second, but of objects in the third and of them alone. The only ideas are the ideas of the mathematicals and hence Aristotle can equate ideas and ideal numbers. Dialectic no longer considers the relations of all other ideas to the Idea of the Good, but rather of the ideal numbers to the One, their formal element, which alone is perfectly intelligible.

I need not stay to emphasise the similarity between this final development of the theory of ideas and the Pythagorean doctrine that things imitated numbers. Aristotle has already marked it (*Metaphysics*, 987 b 11). Nor need I for my present purpose consider at any length the difficulties that attend Aristotle's account of the inaddible units of these ideal numbers. Whether we accept his account or prefer the simpler theory that Plato held these numbers

to be indivisible into any units whatever and therefore exempt from all mathematical operations, it is clear that the result will be to make one ideal number inaddible to another. It is therefore all the harder to conceive what the relation is between such numbers and the figurate numbers of modern Algebra whose very *raison d'être*, so far as I have been able to discover, depends upon the fact of addition. I am conscious that I am probably misunderstanding Prof. Taylor's position on the strength of his few dark hints, but I only wish to ask whether some evidence has not been given in support of the statement that it is possible to give an intelligent account of the ideal numbers without an elaborate study of Pythagorean mathematics or modern text-books on Algebra, or even, may one add, the writings of Theon of Smyrna.

R. Petrie.

THE HUMANIST THEORY OF VALUE.

I AM sincerely grateful to Prof. J. E. Russell for his sympathetic criticism in MIND, No. 76, of my article on "The Humanist Theory of Value" which appeared in No. 74; but I cannot admit that his arguments meet my difficulties. No doubt in pointing out my inability to state clearly what is the reality of an idea apart from its value, he has found the weak point in my article. But I was not professing to maintain any constructive theory, and I do not agree that the presence of defects in my position invalidates my objections to his. He asks me "what content of truth there is left in my idea of God when there has been subtracted from that idea all that connotes value for our human lives". Clearly, none. I admitted expressly that reality for us must always be connected with value—at the very least any reality must have some importance to gain our attention and so be experienced (p. 229). Hence it is clear that reality must always have some connotation of value, and so must any terms which are used to define it. Moreover, I fully admitted the principle that the truth or reality of an idea might be tested by the value it was found to possess. If, then, you take away the value of an idea, you take away its reality. Conversely, if you take away its reality, *i.e.*, the reality it claims when used, you take away its value for the purpose for which it is used. But it does not follow that the two are identical or that either can be expressed in terms of the other. My arguments were largely directed to prove that reality is not expressible in terms of value, and I do not think that Prof. Russell has answered them. Certainly, to repeat myself once more, I am quite unable "to define the reality" of any idea "in any other terms than those which connote values". But can Prof. Russell define the value of any idea in any other terms than those which connote realities? If he cannot, clearly any attempt to subsume reality under a wider or more ultimate category of value falls to the ground. And at any rate in one sense the task, to my mind, is an impossible one, for the simple reason that value in any sense in which I understand the term is a relation between realities (whether things, ideas or purposes), and hence in order to have any meaning must imply realities beyond itself. Now it is notoriously impossible to define anything apart from its relations, which in my view of the case is what Prof. Russell challenges me to do. But it is surely not a satisfactory solution to deny all realities other than relations and so be left with relations which do not relate and are therefore meaningless. Granting then that in one sense there are realities (*viz.*, at the least ideas and purposes) which are other than values, we are still left with the question whether the objective reality of an idea is anything more than its relation to a purpose.

I still reply in the affirmative. The reason I gave in my article that otherwise the value and meaning of the idea vanish, still appears to me to hold good. If I am further pressed as to what I mean by objective reality, I can only reply that when I say that things or persons exist, I attribute to them precisely the same reality as I attribute to my own ideas and purposes considered simply as such—otherwise their reality loses for me its meaning and value. Thus if I think I see a man in my room, and find out subsequently that I was right, I attribute precisely the same reality to the man's presence as I do to my thought that he was present. If, on the other hand, the experience turns out to have been illusory, the reality of the thought remains unaffected, but I hold the presence of the man to have been totally unreal. I seem to myself to be using the word "real" in the same sense throughout. In other words, therefore, my immediate experience of myself, or rather perhaps the mere fact of experience at all, gives me a notion of reality other than value, and it is this same reality which rightly or wrongly I attribute to external objects. I am quite aware that the explanation I have given is beset with difficulties, but I think it justifies me in maintaining that reality is other than value, while confessing my inability to define clearly what it is.

A word or two more is necessary as to truth. Truth in a judgment is constituted by the nature of its reference to reality as distinguished from value. Roughly speaking, we might say that the reference is such as to involve a relation of agreement or correspondence, and I certainly do not wish to dispute that it would be impossible "to give any significant or verifiable meaning to these terms which does not make them names for concrete experiences of satisfaction". Nevertheless (1) the goodness of truth lies in the nature of the reference to reality, not in the quality of the reality referred to. Hence although the attainment of truth is undoubtedly a satisfaction, yet it is a satisfaction which refers outward to a reality beyond itself which is the cause alike of its value and of its occasional unpleasantness. (2) Prof. Russell does not really answer my contention that in any case the satisfaction attained in knowledge of truth is a satisfaction of a special kind, and the question is not whether truth is or is not satisfactory, but, what precisely is it that satisfies our appetite for truth? To assert that the eating of meat is a concrete experience of satisfaction does not help us to determine what meat is; still less would it justify the inference that the meat is the satisfaction. I cannot grasp the precise meaning of Prof. Russell's final statement that "ideas which function so as to effect harmonious coherent and satisfying experiences or which bring us into such experiential connexion with reality as to remove dissentiencies and discontinuities and lead to the fulfilment of purposes; such ideas have logical value or truth-value". Surely this is too vague to meet the case. How, for instance, does it distinguish logical from æsthetic value?

OLIVER C. QUICK.

FEELING AND THOUGHT: A REPLY.

In his little book on Memory, Dr. Watt writes: "Thought as such is independent of all mental imagery. . . . Whatever their actual nature may be, there can be no doubt that thoughts must be recognised to be a peculiar form of mental experience, just as feelings are. And yet at one time vigorous endeavours were made to build up feelings out of sensations of various kinds. The attempt has now been completely abandoned, as will soon be also the attempt to form thoughts out of imagery." With these sentences in mind,—sentences that lead one to wonder what their author has been reading for the past few years,—I was naturally a little curious to know how Dr. Watt would deal with my two volumes of Lectures. For if I do not, with Stumpf and Meumann, reduce feelings to sensations, I derive the sensory and the affective elements of mind from the same mental stock; and if I do not form thoughts out of imagery, I try to analyse thought, without a remainder, into sensory, affective and imaginal components. Moreover, I come to these positions after a review, as full and impartial as I can make it, of the observations recorded and the theories set forth by my fellow experimentalists. I was, then, interested to learn how Prof. Watt would deal with my critical survey of the field, and with the tentative conclusions that I drew from the introspective evidence.

Dr. Watt's comment on the first volume, the *Lectures on the Elementary Psychology of Feeling and Attention*, reduces in effect to the charge that my psychology of feeling and attention is logically defective. I ought, on logical grounds, to have generalised the sensory attribute of extent; I have not made it logically plain how a mental element can lack clearness; I have disregarded the reference of feelings beyond themselves: these are the criticisms. I had expected a more direct appeal to psychology itself. However, I am grateful to Dr. Watt for stating his objections, and I will try briefly to meet them.

A few years ago it was seriously argued that visual sensations lack the attribute of intensity. It seems to me beyond question that certain sensations lack the attribute of spatial extent. Following out these suggestions, I have maintained that the term 'sensation' covers elementary processes of different kinds, and that the nature, number and interrelation of the 'attributes' of sensation

must be determined, in every case, by special inquiry. Hence I see no logical difficulty in the existence of an elementary mental process that lacks the attribute of clearness or vividness. In any event, however, the issue for psychology is an issue of fact, of direct observation; and the explanation of the facts must be sought, not in logic, but in physiology.

Meantime, Dr. Watt's own logic has not been adequate to the theory which he attacks. "Are our feelings so unclear?" he asks. As well might he ask: Are our spaceless sensations so very small? A process can be unclear only if it can also, under other conditions, be clear; and, on my view, the affective processes are neither clear nor unclear, but non-clear; they do not vary at all, as sensations vary, from vivid to dim, from clear to obscure; they show, in experience, neither vividness nor obscurity; they lack the attribute of clearness in precisely the same way in which they lack the attribute of space.

It was, then, the occasional absence of the spatial attribute that led me to inquire, separately, into the constituent attributes of all the elementary processes, and that gave me an open mind with regard to clearness. And the phrase 'total absence of clearness' means for me what it says: which is something very different from 'total obscurity'. As to the reference of feelings beyond themselves, that is a question which cannot arise in a discussion of the elementary affective process, since the mental element does not, alone and of itself, 'refer'; reference is not an attribute of sensation, image or affection.

So far we are, at any rate, within the sphere of legitimate criticism. In his second review, of my *Experimental Psychology of the Thought-processes*, Dr. Watt strikes an entirely different note; he speaks the language, not of criticism, but of affronted omniscience. I shall not discuss all of his charges,—which, indeed, so far as they have interest, are of interest only to myself,—but will consider, by way of illustration, the first and the last.

"Titchener now openly confesses to theoretical bias, which he curiously enough calls constitutional. . . . We may ignore the irrelevancy of this suggestive introduction:" so the review begins. What I confess to, the reader of the book will discover for himself; there is no reason to repeat it here. But I protest against the ignoring of its irrelevancy. If it is irrelevant, let the critic say so, and give his grounds for saying so. I believe it to be relevant; and my opinion is backed up by statements of James, Woodworth, Ach, and others. If I am wrong, and if the reviewer knows that I am wrong, let us hear the argument. The psychology of bias, Dr. Watt declares, is in a very poor way. We all know that: what has to be shown is that my particular introduction is irrelevant to my particular discussion. Dr. Watt does not argue the point; he merely pooh-poohs it.

I turn to the final criticism. "It strikes me as rather curious that Titchener of all people should set up a general psychological characterisation of himself against the detailed work of several observers and the floods of introspective descriptions they gave us." Here it is asserted, first, that I oppose a general characterisation to detailed psychological description. That, however, is not the case. The account of my ideational type, in the first Lecture, is a characterisation; the observations of the last Lecture are on all fours with those of the Würzburg studies. It is asserted, secondly, that I oppose my own personal results to those of several observers. Again, that is not the case. I might have reported in full the observations of colleagues and students, to whom as it is I refer in general terms. It is implied, thirdly, that the 'several observers' are in agreement among themselves. Dr. Watt knows that they are not; that the conscious attitude to-day is not what it was when Marbe launched it on its career; that the elementary thought-process came in with Bühler. It is asserted, fourthly, that we have at our disposal floods of introspective descriptions. Yet, again, Dr. Watt knows perfectly well that the question is: How are we to interpret these introspections? and that Bühler's interpretation, for instance, is sharply opposed to that of Dürr, one of the two principal observers from whom Bühler's introspective material was obtained. What strikes Dr. Watt as rather curious is, from end to end, a figment of his own imagination.

Here are two random samples of my critic's procedure. His recourse to personalities means, I suppose, that his theory of thought as a peculiar form of mental experience is hard hit. Regarded in that light, his review is entirely satisfactory.

E. B. TITCHENER.

VII.—CRITICAL NOTICES.

The Working Faith of the Social Reformer, and other Essays. By Henry Jones, LL.D., D.Litt., Fellow of the British Academy; Professor of Moral Philosophy in the University of Glasgow. London: Macmillan & Co., 1910.

"What I have to say in this and the succeeding articles was, in substance, delivered as Lectures under the Dunkin Trust to the students of Manchester College, Oxford. The lectures were addressed primarily to young men about to devote themselves to the service of religion, and to social work as a part of that service. I have re-written them, but I have not cared to expunge all traces of their first purpose. My aim still is to speak to those who are feeling their way into social usefulness, and whose main hope of comprehending their social work lies in looking at it in the large context of religiously inspired thought." Such is the author's account of the origin of his book. The lectures were no doubt admirably adapted for their purpose, and it is needless to say that they are eminently deserving of being put in a more permanent form and of reaching a larger public. Like all Prof. Jones's writings, they are eloquent. If his style is at times slightly rhetorical, the rhetoric is of a more restrained and academic character than that of the Lectures delivered in Australia which I had the pleasure of reading and reviewing not long ago. The book forms an admirable introduction to Social Philosophy from the point of view which the author represents. That point of view is, it need not be said, that of Hegelian Idealism. He would not, I think, object to having his social creed described as Hegelism up-to-date. His personal views are more politically "liberal," more inclined towards Socialism (without being actually socialistic), than those of Hegel himself. While he holds that the clue to sound thinking on political and social matters is still to be found in the leading ideas of Hegel, that clue is applied to the solution of problems which had hardly come above the horizon in Hegel's time, and the view he takes of them is of course coloured by a very different social and political environment from that in which Hegel moved.

The idea of the book may be described as an attempt to apply certain fundamental ideas about the world and about the nature of human society to the solution of actual social problems, or at least to suggest the spirit in which, in the light of those ideas, such

problems should be faced. Nearly every chapter contains a piece of Philosophy and an application of it to some actual problem. It would be out of place to attempt any elaborate criticism of the general metaphysical system expounded or presupposed by this volume, but I should like to make a few remarks on the more strictly metaphysical side of the book. The most considerable contribution to Metaphysics which it contains, consists in a short criticism of Prof. Ward and another of Mr. Bradley. It may be admitted that Prof. Jones has put his finger upon some of the weaker places in the armour of both these great thinkers. He dwells upon Prof. Ward's tendency to make reality consist in particulars, and insists on the difficulty in which he is placed by his reluctance to ascribe reality to Universals while admitting that knowledge consists in Universals. These and other criticisms of Prof. Ward do not to my mind do more than point out difficulties which Prof. Ward, in a book which does not profess to contain a complete system either of Logic or of Metaphysic, has not fully met: and I am by no means sure that Prof. Ward has really committed himself to all the positions which Prof. Jones attributes to him. His criticism of Mr. Bradley is, it seems to me, more effective. It would be impossible to put into a single instance a more trenchant criticism upon Mr. Bradley's conception of "the Absolute" than the following: "It is assumed that where there is oneness, there are no relations, and where there are relations there is not oneness" (p. 75). But the greater part of the criticism turns upon a tendency which the two writers have in common, not upon the side on which they represent opposite poles of idealistic thought. Both of them are accused of an excessive subjectivism which is, it appears, the failing of all modern Idealism. Idealism "is still occupied in endeavouring to reduce all things into spirit: it is trying to show that every natural object, and every atomic part of every natural object, and, I suppose, every point of space and every instant of time, if they are real, must be spiritual realities, that is, conscious or feeling centres" (p. 77). If this sentence had not been written by Prof. Jones, I should have been disposed to say that it represents a misconception of even the most subjective Idealism—even that of Berkeley—such as one would expect from an Undergraduate at an early stage of his philosophical studies. Of course if by "real" be meant "independent realities," the statement holds. But Prof. Jones is still Idealist enough to deny that an atom or a point of space is an independent reality. And even Berkeley did not deny that an "idea" was real enough in its way, though it did not exist out of a spirit: still less has any post-Kantian Idealist that I know of denied that the world has a reality of its own, though (to use Prof. Jones's own words—I admit that other Idealists have used more unambiguous language) "every object, actual or possible, physical or spiritual, is essentially implicated in the subject" (p. 64). It is

possible that Idealism has not yet succeeded in giving a perfectly satisfactory answer to the plain man's elementary difficulty as to what becomes of the furniture in my room when I leave it empty. I will not deny that a perfectly unexceptionable reconciliation of the two statements that "space is real and time is real, and matter is real" and that "Reality is experience" (a doctrine which, properly understood, Prof. Jones does not repudiate), may not yet have been given; but I do venture to doubt whether even a contribution has been made to such a reconciliation by such sentences as these: "Is it not possible that self-consciousness, through which objects are related to one another, instead of abolishing, maintains the mutual externality of things in space and time? Spirit may be as vitally interested in difference as it is in unity. Under-reaching or subsuming the successive moments of time, the self-exclusion of extended space and of cause and effect, and the alternation of the forms of a constantly transmuting physical energy, spirit may still leave the distinctions, the differences standing and even give them fuller play. The not-self through which alone the self builds up its life may, after all, not be vain show, and the self may not be condemned to realise itself by reference to its own shadowy products" (p. 77). Putting aside the criticism of Idealism implied in the last clause, there is nothing in this paragraph which I could not subscribe to, and so (I presume) would most or all of my friends in Oxford whose recent lapse into undisguised Realism has received at least an Olympian pat on the back from Prof. Jones. But they would subscribe to it in a realistic sense, and I in an idealistic one. I find the same fatal ambiguity about every sentence in which (as it seems to me) Prof. Jones is attempting at once to hunt with the hounds and run with the hare. Doubtless he would reply by talking about a "higher unity" which I am incapable of appreciating: I can only say that, if this higher unity is capable of articulate expression, I have, with the best will in the world, failed to discover it in Prof. Jones's pages. His method seems to me to consist in balancing every idealistic sentence by a realistic one, and then "transcending the difference" by an ambiguous one which admits of either interpretation. Neither Prof. Ward nor Mr. Bradley may have said the last word about Idealism, but at least all their writings have this merit: they are everywhere grappling with the real difficulties of the subject. Prof. Jones, as it seems to me, exhibits infinite skill and ingenuity in evading them, and displays brilliant literary powers in disguising the evasion. For Prof. Jones's mind there are no difficulties—none which a ready-made set of phrases and formulæ cannot instantly and adequately solve. I am constantly reminded of the old book which professed to teach "reading without tears". There are no tears in Prof. Jones's philosophising.

When we turn from Prof. Jones's Metaphysic to the practical side of his book, his social teaching is eminently sane and sensible, as

far as it goes: but I venture to question whether it is as vitally connected with his Metaphysics and his abstract views about the nature of human society as he supposes. I do not think that Prof. Jones sufficiently realises (he would not perhaps formally deny it) that it might be quite possible for other men to accept all his generalities about the organic character of Society and so on, and yet to differ widely from his practical conclusions, because they took different views of the actual concrete facts of life—the tendencies of human nature, the working (as exhibited by history and statistics) of various institutions, laws, and customs. Prof. Bosanquet and the late Prof. Ritchie would each, I imagine, of them have had little difficulty in assenting to pretty well all Prof. Jones's doctrines about human society; and yet Prof. Ritchie was an avowed Socialist, and Prof. Bosanquet is at least far more of an individualist than Prof. Jones. Each of them may be credited with many of the views which Prof. Jones is disposed to connect with the mental condition arising from not having mastered the secret of Hegel His treatment of Socialism reminds me of a little controversy which took place some years ago in the pages of the *Economic Review* between the late Dr. Edward Caird and Mr. Sidney Ball. Dr. Caird had declared that no educated man is wholly a Socialist or wholly an Individualist. Mr. Ball replied by insisting that such a dictum implied a radically mistaken conception of Socialism. Socialism does not mean a disposition to assert the rights of Society against the individual, nor does Individualism imply an assertion of the rights of the individual against Society. The intelligent Socialist aims at the fullest development of the individual, but he contends that the existence of private capital (not, as Prof. Jones seems to assume, private property) necessarily prevents the free development of the individual or at least of the great majority of individuals. Socialism is the name of a definite economic theory about the proper ownership of Capital. The intelligent Individualist, on the other hand, aims at the welfare of Society and admits the paramount claims of Society as fully as the Socialist, but he holds that a strict restriction of State activities is the best means of promoting that welfare. Much of Prof. Jones's discussion of Socialism seems to be based upon this mistaken conception of what Socialism means: nor will any *a priori* formula do much to settle the controversy between Socialist and Individualist. No doubt many of the fallacies and delusions which betray people into making a bogey of Socialism are admirably exposed by Prof. Jones. He gives abundant concrete illustrations of the fact that State interference does not necessarily prevent, but often promotes the true development of the individual. Nevertheless, I cannot but think he attaches too much importance to the mere demonstration that State action *need* not injure the individual: the real question is whether State action in this actual world is or is not likely to be of a character to injure the individual. "Precisely in the degree to

which the purposes of the society are rational, and it attains these purposes, what is limited for the individual is not his freedom but his caprice, not his power to do right but his inclination to do wrong" (p. 107). This is really cutting the knot. The difficulty is that it is frequently impossible to abridge men's power to do wrong without limiting their power to do right. Prof. Jones would hardly deny that the moral ideal includes not merely the doing of certain actions but the doing them from the right motives—πως ἔχων, as Aristotle would say: and when a certain course of action is marked out for a man by law, his actions cease to a certain extent to be the result of his free choice and the expression of his character. I need not develop the point, but will only refer to the social and political writings of Prof. Bosanquet, *passim:* remarking incidentally that in Prof. Bosanquet's treatment of the topic there seems to me to be a certain amount of exaggeration on the other side. There may be some exaggeration about Prof. Bosanquet's contention that 'compulsory morality is a contradiction in terms'; but it is undeniable that there is always a danger, when State interference is pushed beyond a certain point, that it may unduly limit the sphere within which the individual is free to develop his own intellect and his own character in his own way, even when what he is compelled by the State to do is something in itself rational and right.

But a still greater difficulty arises from the fact that there is often no security that the State interference shall be rational. Even when the State interference is rational on the whole, the interference may have some bad effects. It is easy to insist, as Prof. Jones frequently does, on the way in which State education has aided the self-development and increased the liberty of the individual. Yet even wisely directed State control has a tendency to stereotype education, to prevent experiments, to damp the enthusiasm of voluntary organisations, and the teachers employed by them, to destroy the liberty of original and highly gifted teachers. Many experts in the subject would tell us that in Prussia education is not really so good as it is in other parts of Germany just because State regulation has been carried further than elsewhere. The fears expressed by Individualists about State interference in this and many other matters cannot therefore be dismissed, as Prof. Jones is disposed to set them down, as due merely to a false antithesis between the individual and the State, or a false conception of true liberty and the like. There is another aspect of the matter which is wholly overlooked by Prof. Jones. With habitual Optimism he always assumes that what is good for the community, must be good not merely for some individuals but for all. He refuses to admit that legislation which promotes liberty for some may diminish it for others. Yet it is impossible to deny that this is to a large extent the tendency of the institution of private property in the form which allows of individual capital. The Socialist

will contend that the existence of such private capital, though it secures liberty for self-development to some, wholly destroys it for the non-capitalist bulk of the community: while the Individualist may reply by admitting that it really does set limits to the self-development of very many persons, but may contend that it is of great social importance that some men should enjoy that freedom of action which only the possession of considerable private property can give, even though that freedom must necessarily be enjoyed by only a few. The real difficulty of the problem lies in balancing against one another such conflicting considerations as these, and not in demonstrating *a priori* how—in an ideal world—it might be possible to reconcile the strongest possible social control with the utmost conceivable individual self-development. I do not mean of course to deny that Prof. Jones does here and there admit that, when the Philosopher has done his best to provide the practical man with correct views about the organic character of human society, many problems of detail remain to be decided in the light of experience, expert knowledge, and practical common-sense. But the whole tendency of Prof. Jones's social teaching is, as it appears to me, enormously to overrate the help which formulæ about the one and the many, unity and difference, Society and the individual, the individual will and the general will, can afford to sound thinking in social and political questions, and to underrate the importance of the appeal to experience, the study of history, the detailed investigation of past and present social facts. In reading his social Essays, I constantly feel as to Prof. Jones's treatment of metaphysical problems—that the real difficulties of the subject begin just where Prof. Jones leaves off. As regards the present volume, it might with some justice be pleaded that the book is intended to supply the philosophical prolegomena, as it were, to Social Science rather than Social Science itself. Nevertheless I cannot but feel that, while students of these pages will be impressively warned against many of the confusions and fallacies into which students without philosophical training are apt to fall, they will be in considerable danger of supposing that the difficulties are fewer than they are, and will not be particularly encouraged to look to the right quarter for their solution. I certainly should not deter a beginner in such subjects from reading Prof. Jones's book; but I should very much like to put into his hands immediately afterwards some counter-irritant such as Prof. Graham Wallas's *Human Nature in Politics*.

By way of illustrating Prof. Jones's tendency to substitute an abstract and *a priori* solution of difficulties for one based upon the patient examination of fact, I may call attention to his attempt to deal with the problem of "the child and heredity". He is inclined to accept from Biology (perhaps somewhat prematurely) the doctrine that acquired characteristics are not inherited; but, when he approaches the question whether moral qualities are or are not inherited, we are suddenly confronted with an *a priori*

dogma that "good and evil are in their very nature incapable of being transmitted" (p. 174). The proof of this assertion seems to turn on the obvious fact that a man is not good or evil till he has actually willed. But why should this make it impossible for a child to inherit a tendency which will react on a given environment in such a way as to produce good conduct, and another child in such a way as to produce bad conduct? I cannot discover that Prof. Jones has given any reason at all against such an hypothesis. The question is, it would seem, one which ought to be settled by an appeal to facts: but Prof. Jones makes no attempt to settle it in this way. No doubt the experience of such work as that of Dr. Bernardo shows that environment is a more powerful element in determining character than heredity, but after all not all the men and women who come either from model homes or model institutions turn out well. And if one man's goodness and another's badness is not due to the original and inherited nature of the self, to what is it due? Here is Prof. Jones's answer:—

"In every other sense, except this of varying capacities awaiting realisation by actual contact with circumstance, each child is a new beginning; and the way to virtue, so far as internal conditions are concerned, is as open to the child of the wicked as it is to the child of the virtuous. The whole stress, therefore, falls upon the environment, into which from birth the child enters" (p. 177). On what the "therefore" rests except Prof. Jones's own assertions I find it impossible to discover; but what I should like to call attention to is the absence of the smallest attempt to deal with obvious facts of the situation. Do we not constantly find members of the same family, brought up apparently in practically the same social environment, yet exhibiting from their earliest years the most strongly marked differences of character—one selfish, the other unselfish, one industrious, another idle and so on? Will Prof. Jones go so far as to contend (as was seriously contended by Godwin) that in such cases the difference springs wholly from small and unobserved differences in the environment? And if they are not due to the environment and yet not (as Prof. Jones tells us) due to heredity, to what are they due? If we are to press Prof. Jones's assertion that "each child is a new beginning," it would look as if his good or bad conduct had no cause at all, and as if Prof. Jones had adopted the position of pure Indeterminism. If this is really his position, it should surely have been stated with more clearness: if this is not his meaning, some attempt should have been made to explain why the same environment seems at least to act so differently on different individuals.

No one will rise from a study of this book without admiration for Prof. Jones's powers both of thought and exposition. The lessons which he teaches about the nature of human Society and the relation of the individual to it—that the individual owes everything to Society and yet the Society is the creature of individuals, that

"the State is never a merely secular power," "that the State is a moral agent," "the economic and political importance of character," and the like, are lessons which need constant reiteration, and which have not yet been really appropriated by the average man, even if he be a candidate for some branch of the Christian Ministry or an intending student of Social Science: and they have never been more impressively expounded and illustrated than by Prof. Jones. And yet, for the reasons which I have suggested, I must confess that I have learnt more from the social and political teaching of less brilliant writers.

H. RASHDALL.

Manual of Mental and Physical Tests: a Book of Directions Compiled with Special Reference to the Experimental Study of School Children. By GUY MONTROSE WHIPPLE. Baltimore, U.S.A.: Warwick and York, 1910. Pp. ix, 534.

PROF. WHIPPLE has performed a most valuable service in preparing the present volume. It is pioneer work of an onerous kind. An attempt to collect into one volume the methods and results from the widely scattered literature of mental and physical tests is noteworthy even in attempt; much more noteworthy, therefore, is a successful achievement.

This book is not a manual of laboratory practice; it is intended for quicker and less analytical work than that which the well-equipped laboratory of experimental psychology may most profitably undertake. It is especially compiled for the use of those whose daily work, so to speak, demands a knowledge of, and some insight into, the best mental and physical tests for school children. But it is useful also to the trained psychologist, often introducing him to a body of practical knowledge which may reflexively modify his science, and always valuable in the excellent bibliographical references which are to be found at the close of each chapter. There are chapters on Anthropometric Tests, Tests of Physical and Motor Capacity, Tests of Sensory Capacity, Tests of Attention and Perception, Tests of Description and Report, Tests of Association, Learning, and Memory, Tests of Suggestibility, Tests of Imagination and Invention, Tests of Intellectual Equipment, and graded Tests for Developmental Diagnosis.

First a word as to the tests themselves. Prof. Whipple cannot be blamed for not presenting tests which are either not in existence or have not been applied under school conditions with sufficient frequency to guarantee their use. But I do not think—and it is my one point of serious disagreement—that the author realises the necessity for new tests of what may be called the higher mental 'faculties' as acutely as he would if he were facing the sort of criticism which an educational psychologist has to meet in England.

He says, " What we need is not new tests, though they are welcome enough ". I believe, however, that a second edition of his book, which is certain to be called for, will show that he has not merely accepted, but heartily welcomed, any new tests of the 'higher functions' which, meanwhile, have been shown to work in practice.

With the Binet-Simon tests it seems clear that English—and, presumably, American—children will show, either through training or natural capacity, some marked differences from their French confrères.

In a book of this size—for this is a big book—there must necessarily be included much material of varying value. An author of such a book is faced with the extremely difficult task of deciding what to include and what to exclude. In my own judgment, the right policy has been adopted. Prof. Whipple has aimed rather at inclusiveness than exclusiveness. Of course there are dangers in the use of a wide-spreading net; but the dangers of small and narrow ones which take up only those specimens which are of a certain make are, in my judgment, much greater, especially in the present position of the science of educational psychology. Doubtless, at times, this method of inclusion and balance leaves the reader in a state of indecision which, unless he be prepared to go up to the original sources and make an intensive study for himself, will probably remove the particular test discussed outside the 'range of practical politics'. As to the validity of the esthesiometric test for mental fatigue, to take one example, there is such a conflict of competent opinion, great names and careful researches are quoted on both sides—impartially and lucidly, as always—that the net result to the practical person is likely to be a conviction that he had better let that test alone. Notwithstanding such results as these, I am still convinced that, even for practical purposes, the author's method of inclusion and balance is best. No experimenter can easily be dogmatic when he knows the weight of competent opinion on the other side. He will doubtless feel more respect for those experimenters whose results agree with his own; but, if he reads this book, he will be less likely to generalise beyond his own evidence.

There is much discussion just now as to the best methods of statistical evaluation. Prof. Whipple gives a long chapter to the subject which cannot fail to be of service to the educational psychologist. Again I have to say that his standpoint appears to me to be the right one. He includes and balances opinion against opinion. The educational psychologist, as such, cannot be expected to decide on disputes which are purely statistical. He may legitimately demand that the assumptions, psychological and logical, on which the formulæ are based, shall be set plainly forth, before he be expected to use the formulæ in his daily work. If this is done and he accepts the presuppositions of the formulæ, the question then becomes a matter for the mathematicians, and the disputes may be left to them. It is probable that in the measurements of

mental functions, more 'play' for variation will have to be conceded than has been usual in physical measurements; otherwise we may find that formulæ based on the nature of physical measurements, whilst valuable for negative work, will be found obstructive to the constructive aspects of the mental sciences.

I feel that these few paragraphs are very inadequate as a 'notice' of such a big and various book. If they are sufficient to mark appreciative recognition, they will, perhaps, have served their purpose.

W. H. WINCH.

Die Logischen Mängel des engeren Marxismus: Georg Plechanow et allii gegen Josef Dietzgen; Auch ein Beitrag zur Geschichte des Materialismus. Von ERNST UNTERMANN. Herausgegeben und bevorwortet von EUGEN DIETZGEN. München, 1910. Verlag der Dietzgenschen Philosophie. Pp. xxiii, 753.

Josef Dietzgens Philosophie, gemeinverständlich erläutert, in ihrer Bedeutung für das Proletariat. Von HENRIETTE ROLAND-HOLST. München, 1910. Verlag der Dietzgenschen Philosophie.

THESE volumes, published by the firm for issuing works bearing on the philosophy of Dietzgen, mark one of the reactions against the sectionalism and opportunism of much modern German Socialism. Josef Dietzgen was writing in the "fifties" and has been dead now for nearly a quarter of a century. He was the author of a philosophy which he contended was of especial importance in its bearing on the social problem. The character of this philosophy is not the chief subject-matter of the two volumes now reviewed, but a popular exposition of it will be found in the smaller of them, and a short account of it in the third part of the larger. The system is monistic and materialistic; it is described as 'Naturmonismus'. But it is not materialism of the eighteenth century type, we are assured by Untermann. The brain does not secrete thought as the liver secretes bile, according to Dietzgen, but the brain thinks as inevitably as the lungs breathe; or, as it is put elsewhere, thought is a function of the brain as writing is a function of the hand. But mind and the world are one. Consciousness and the brain are united, and the brain is united with the blood and food and all the external universe. Emphasis is laid on the materialistic and empirical aspects of this system and on its 'anti-metaphysical' nature. *A priori* speculation and idealism were to Dietzgen delusions. It is argued by Untermann, who is a socialist of the non-revisionist order residing in America, that Marx's philosophical groundwork was incomplete. Marx, for a part of his system, took over the Hegelian dialectic and introduced what, to give it its full title, may be called the "Historical materialistic dialectic". But,

obviously, readers who were captivated by the dialectical part of his argument and followed up their interest in Hegel would meet with conclusions which are not in accord with socialistic teaching. Marx, it is affirmed, ought to have included in his system factors other than the economic, and to have extended his materialistic mode of thought to *Welttheorie*, and *Erkenntnistheorie;* and so have left no way of escape from the conclusions of 'scientific socialism'. What he failed to do, Josef Dietzgen attempted—with what success those who are curious to study his philosophy may judge for themselves. The alleged importance of Dietzgen's indirect contributions to socialism are insisted on by Untermann and illustrated from the teaching of socialists, notably Plechanow, Mehring, Kautzky and Bernstein, from the disagreements amongst socialists, and also from the pronouncements of other writers. Both Untermann and Roland-Holst declare that Dietzgen's work is not antagonistic but supplementary to Marx's, and the former affirms that Dietzgen did not borrow from Marx but was equally an originator. It should be noticed here that large numbers of socialists, even of those in Germany, attach no importance to Marx's historical materialism and dialectical exercises, and regard it as a special recommendation of much modern socialism that it has shaken itself free from the religious and ethical *dicta* which used to be presented as corollaries but which they consider to be false or irrelevant. Dietzgen's followers want to make their socialism all things to all men, even in a higher degree than it ever was, and of course in trying to do so they expose a wider frontage to attack. Untermann's book contains as appendices three short articles by G. Pechanow, F. Mehring and E. Dietzgen respectively.

S. J. Chapman.

VIII.—NEW BOOKS.

Marcus Aurelius and the Later Stoics. ("The World's Epoch Makers.") By F. W. Bussell, D.D. Edinburgh : T. & T. Clark, 1910. Pp. xi, 302.

I should hardly like to recommend Dr. Bussell's book to an English reader desirous of making his first acquaintance with Seneca, Epictetus, or the Emperor Marcus, though the student who knows them already may very possibly derive considerable profit from some of the writer's freely scattered epigrams. In the first place, Dr. Bussell has fallen into the bad mistake of filling whole pages with Greek and Latin quotations most of which remain entirely untranslated. In the second, he has adopted a style of writing most unsuitable for the purposes of a series like that in which this book appears. What was required was an accurate historical account of the personality of the thinkers with whom the book deals, and a lucid analysis of their thought such as would have made it clear how much of what they teach is the tradition of the school to which they belong and how much may be accounted for by the peculiarities of individual temperament and position, and by the state of the Roman world in the first two centuries of our era. Dr. Bussell has deliberately chosen to sacrifice straightforwardness and lucidity to the trick of allusiveness and the hunting after the *not* "inevitable" word. He never allows us to forget for a moment that he is a member of the same College as the late Walter Pater, and his style may not unfairly be described as inferior Pater with a strong dash of Maeterlinck. He has the persistent *décadent* mania for sacrificing the paragraph to the sentence, and the sentence to the epithet. Whether this is the kind of style best suited to historical exposition I will leave it to others to judge. What I do know is that in the present example history is persistently ignored for the sake of epigram. There is no attempt to present the reader with any living picture of any one of the personages dealt with ; no record of their lives ; no notice of the general history of Roman Stoicism ; no account of the influences which had modified the Stoic system between the days of Zeno and the age of Seneca. This neglect of history leads to strange consequences. Dr. Bussell begins his description of the Stoic attitude towards life by calling it, in our hateful modern "literary" jargon "feminine" and "quietist". Now there may be some excuse for this language if one derives one's notions of Stoicism exclusively from Seneca and Marcus, but it would be hard to find a less "feminine" moralist than Epictetus or his master Musonius (who, by the way, is unaccountably ignored throughout the book). And the mere recital of the part played in the public life of the fourth century B.C. by the disciples of Zeno (*e.g.*, Persæus), and by the Roman Stoics of the first century A.D., in keeping up the opposition to the Cæsars should be enough of itself to dispel the accusation of quietism. Epictetus, to be sure, aspired to play no part in the political life of the Empire, but neither did St. Paul, and there were much the

same reasons in the two cases. In fact, St. Paul has laid himself open, in a way in which Epictetus never did, to the charge of preaching the doctrine of absolute non-resistance and passive obedience, yet no one, and least of all Dr. Bussell, abuses St. Paul as a "quietist". It is an odd conception, too, that the element of Platonism in Seneca and Marcus is due to their personal need of a basis for devotion which Stoicism did not supply. I agree with Dr. Bussell that the Stoic theories do not afford logical justification for the rapturous worship which is characteristic of Stoic writing, but this element, rightfully or not, belonged to the school from the beginning; I suspect Dr. Bussell can hardly have re-read the *Hymn* of Cleanthes during the years which he tells us have been given to the elaboration of his book. And the Platonism, of Seneca in particular, is no new importation of his own. It goes back, as is absolutely proved by the *Quæstiones Naturales*, to the recreation of the Stoic system by Posidonius in the first century before Christ. So again "pessimism," which Dr. Bussell declares to be a special note of the system, has no real place in it at all. Of all the ancient sects the Stoics were the most determined optimists, and it was particularly their superficial optimism which Carneades set himself to shatter in the attacks on the Stoic Theodicy which have been transmitted to us through Cicero and Plutarch. The world-weary tone of Seneca and Marcus is explained by the fact that each had borne the burden of the management of the Roman world. In Seneca we have, moreover, a further ground for low spirits in the keen sense of personal sinfulness which makes his *Moral Epistles* more like the outpourings of a Christian saint in the making than like the exhortations of a Hellenistic "sage". Marcus gives his secret away in his pregnant counsel to himself, "beware of growing into a Cæsar". Any man, whatever his creed, who was alive to the possibilities of personal degeneration under the burden of irresponsible power, as they had been illustrated by the career of a Domitian, would find himself moved to habitual depression and self-distrust. The fact is Dr. Bussell has been led astray from the outset by his adhesion to the exploded theory that Greek Philosophy is a thing of "Oriental" origin, to which he adds the corollary that "Orientals" are all by nature quietists and pessimists. (Yet one would think the history of the Hebrews and Arabs should have done something to dispel this conception of an inherent quietism and pessimism of the Semitic character. Dr. Bussell's view of the Oriental seems based on acquaintance with Buddhism and Hinduism, but it is demonstrable fact that India, at any rate, had no influence on the development of Græco-Roman thought. Until the conquests of Alexander it was *terra incognita* to the Hellenic world, and Buddha is first mentioned, so far as I know, by Clement of Alexandria.) Even of Semitic influence there is, so far as I know, no real trace before the time of the Ptolemies. The stories of the Eastern travels of Pythagoras, Democritus, Plato, are Alexandrian romance, and if it is really true that Zeno had Phœnician blood in him, there is nothing in his *doctrine* which indicates anything but purely Hellenic sources.

There is one particular piece of bad history to which I must call special attention, because it is connected with a grave injustice to the moral character of the great philosophers. According to Dr. Bussell, Zeno never aimed at raising the ethical standard of life, and, in proof of this, we are told (p. 160), that the school never interfered with "Hellenic ἔρως," by which the writer, to be quite plain, means sodomy. Now, in spite of popular misapprehensions due to the confusion of Greek habits with those of the debauched Roman populace who patronised writers of the stamp of Martial, it is absolutely certain that Greek Philosophy was as much opposed to abominations of this kind as the ethical code of our

own day. What Socrates, Plato, and Aristotle thought of them we know, and there was no need for Zeno to make a special point of pronouncing them *παρὰ φύσιν*, because it was already a common-place of philosophic ethics that they were "beastly". Perhaps Dr. Bussell has not read the acute discussion in Wilamowitz's *Antigonus von Karystos* where it is shown how the scurrilous gossip-mongers like Athenæus contrived to asperse the reputation of the great moralists by misinterpreting in their own filthy way harmless notices about their personal habits. (*E.g.* all manner of evil was read into the harmless remark that Zeno, though he once or twice employed maid-servants, preferred, like Kant, to be waited on by a page. So epigrams were fathered on Plato, attributing to him a passion for Agathon and Phædrus, no doubt by some one who remembered that Agathon and Phædrus figure in "erotic" dialogues, but conveniently forgot that both of them were grown men when Plato was a boy of eleven.) Dr. Bussell might at least have remembered the standard of chastity demanded by both Musonius and Epictetus, and compared it with that of the Roman populace, as revealed by Martial and Juvenal, before he formulated his charge of indifference to the improvement of moral standards against the Stoic school.

The reader who is already acquainted with the facts from other sources will find many interesting *obiter dicta* among Dr. Bussell's unfavourable contrasts between Stoicism and the Christianity which is, in some ways, and particularly in its ethical imagery, so curiously like it. In the main I should agree with what seems to be his opinion that the essential weakness of Stoicism lay in its Pantheism, which effectively excluded from it anything like the conception of "grace to help in time of need". In these days of the popularity of theories about "divine Immanence," it may be useful to insist that any faith which is to regenerate the world must be faith in a God who is "without" as well as "within". Yet Dr. Bussell can be curiously blind even on points of theology when he likes. In one place he echoes, apparently with sympathy, the complaint that the Christian insistence on God's omnipotence is "meaningless". But then Dr. Bussell does not believe, as the Hellenistic world did, in astrology. Early Christians who had been brought up to stand in dread of the *κοσμοκράτορες* (and it will be remembered that St. Paul himself thought these beings too dangerous to be met with anything less than the *whole* armour of God) had a very practical reason for wishing to be assured that above the *κοσμοκράτορες* and their likes there was always *ὁ θεὸς ὁ παντοκράτωρ*.

A. E. Taylor.

English Philosophy: A Study of its Method and General Development. By T. M. Forsyth, M.A., D.Phil., Lecturer in Logic and Metaphysics in the University of St. Andrews. A. & C. Black, 1910. Pp. xii, 231.

'The stages of English philosophy,' says Dr. Forsyth, 'are steps in the discovery of what is involved in the principle that experience is the basis and ultimate criterion of truth.' It has been characteristic of the English school from the beginning that its members have endeavoured to make philosophy as well as science rest upon experience, as upon the one foundation of all knowledge.

The development which follows on this endeavour will have various aspects. In the first place, the relation between philosophy and the sciences will be worked out as philosophy grows. At the outset, the experiential method 'is regarded as mainly implying faithfulness to fact through all the different spheres of knowledge, and a gradual and regular

transition from fact to fact and from sphere to sphere. . . . But it soon becomes evident . . . that a stable and intelligible system of knowledge must be grounded on a critical study of the meaning and scope of knowledge itself. Accordingly, the experiential method in philosophy is considered equivalent to the application of the general method of science to ascertain the nature of the processes and evidences of knowledge. The next step is the conception that this critical inquiry . . . cannot be merely on a level with other inquiries, but rather gives to these their whole significance as conveying a certified knowledge of reality. Lastly, it appears that the fundamental inquiry is the application of the common method of knowledge to experience in its widest extent and at its deepest level, in contradistinction to limited views of its content adopted for special purposes' (pp. 214, 215).

Secondly, there is the continual endeavour to get rid of assumptions and to get a clear view of the facts. 'Thinker after thinker . . . contends that the start from experience consists in the renunciation of prepossessions and the beginning anew from consciousness as the only source of knowledge. . . .' The contention has been used in the service of many different views and with many different applications, but the principle is the same; 'we must get behind the conceptions which we habitually employ for the interpretation of experience, and see them in their origination and proper setting with reference to our experience as a whole'.

Thirdly, there is naturally involved along with this an increase in clearness of view with regard to experience itself. As time goes on this is no longer supposed to consist merely of sensation, nor merely of clear and distinct ideas; the whole of experience takes its place equally as experience and as the foundation of philosophy.

Dr. Forsyth finds the beginning of the English school in Francis Bacon, of whose work he gives a full and illuminating account. 'The place Bacon occupies as first and representative English philosopher,' he says, 'is due, above all, to his propounding a doctrine of the method of knowledge; and his philosophy is bound up with his method of knowledge in such a way as to have become inseparable from it.' Bacon's undervaluation of the use of hypothesis in the experiential method is balanced by the merits and defects of Hobbes' work, arising from the emphasis laid by the latter on the conceptual side of scientific procedure. Locke is ambiguous because of a struggle between less and more adequate views of what experience is, and henceforth 'the successive phases of English philosophic thought are coincident with the stages in the evolution of the conception of experience'. After the evolution through Berkeley and Hume comes the work of the Scottish school, 'in its origin a recoil against the conclusions from Locke's principles which are presented in the doctrines of Hume'. Its characteristic appeal is to 'such principles of experience as seem to have universal acceptance, and to express the very nature of the rational mind,' and Reid considers his own philosophy, freed from the presuppositions about ideas which have misled his predecessors, to be the true application of the method inaugurated by Bacon. Next, 'the philosophy of Thomas Brown and the two Mills, though in part directly descendent from the work of Hobbes and Hartley, may be considered a counter-reaction towards a standpoint akin to that of Berkeley and Hume'. The distinguishing feature of J. S. Mill's thought is 'his recognition of the futility of seeking an explanation of experience in anything outside itself'. Ferrier concentrates attention on the nature or implications of knowledge as opposed to its origins. Grote leads up to an important development in 'giving a theory of knowledge according to which it is essentially a continuous outgrowth from sentience or imme-

diate experience as the source or medium of all apprehension of reality'. 'This conception suggests, further, that the reality which knowledge interprets is continuous in its existence and nature with the experience of it. Not only does experience constitute the sole means or the entire character of our knowledge of reality; it is the very material or the constitutive character of reality itself.' Green is the first English writer definitely to identify reality with experience, and his philosophy is developed and corrected by Bradley. (The account of this last author is given in half a dozen admirable pages, which in clearness, precision, and just selection are a model of what a summary should be.) The completest embodiment of the English tradition Dr. Forsyth finds in the work of Mr. Shadworth Hodgson, with whom, however, he is by no means entirely in agreement.

This is a satisfactory book. It is written in a plain and dignified style, the only fault of which is that the author occasionally goes near to repeating himself in successive pages through his anxiety for clearness. The unity of the whole is preserved throughout with remarkable success; the book is one book and not a series of essays; the details are held together and hang together. So far as the present writer is able to judge the accounts of the successive philosophers are just; they are certainly interesting and suggestive, opening doors as a summary should instead of closing them as most summaries do. The only assistance that one desiderates is some addition at various points of 'explanation by contrast'; some reference, for instance, to Continental writers. The experiential method and its developments are presented in so clear and natural a way that one fails sometimes to understand what alternative there could be.

Dr. Forsyth is to be congratulated, and it is to be hoped that he will presently pursue some of the many further investigations which the book opens up.

HELEN WODEHOUSE.

The Philosophy and Psychology of Pietro Pomponazzi. By ANDREW HALLIDAY DOUGLAS, sometime Professor of Apologetics and Pastoral Theology in KNOX College, Toronto. Edited by CHARLES DOUGLAS and R. P. HARDIE. Cambridge University Press; London: C. F. Clay (Manager), Fetter Lane, E.C.; Edinburgh: 100 Princes Street. 1910. Pp. x, 318. Price 7s. 6d. net.

This essay was submitted by Halliday Douglas as his thesis for his degree. He did not publish it, and it had been his purpose, had he lived, to treat it merely as a preliminary collection of material for a deeper-probing inquiry into the nature of that imperfectly understood movement of later mediæval thought, in which Pomponazzi played his part. That Douglas was well fitted for such a task, alike by his flair for essentials in research and by his gift for speculation, none will doubt, but he was not destined to accomplish it. We are left with his account of the protagonist as here set forth.

This is eminently judicious and at first hand, and it displays a sufficient independence even of the altogether indispensable Ferri. And if the survey with the purpose of orientation, with which Douglas preluded his study, rests in the main on good secondary authorities, on Nourrisson, for example, when dealing with Alexander, on Renan and Munk for Averroes, while Aristotle is read perhaps somewhat too much through the spectacles of Siebeck, yet the threads are successfully disentangled which were warp and woof to Pomponatius. Douglas shows that Pomponazzi was no Alexandrist, that the streams which meet in him are the Aristotelianism of St. Thomas on the one hand and Averroes on the other, and the

stream from the fountain head, 'a little troubled, and coming partly by way of Alexander'. If it be added that Pomponazzi's modernism comes out chiefly in his emphasis on the positivist, the psychological element in Aristotle, while the essentially commentatorial way in which he grounds and develops a thesis and the wholly dialectical method in which he argues it display how irrevocably his look is directed not forward but back, we have the elements of the tragedy of this single-minded and forlorn thinker. Against the Averroist severance of reason from soul, as metaphysical principle from natural being, he is prepared to play off the arguments of Albert and St. Thomas, of Alexander, probably at second-hand, and of Aristotle, not necessarily from the Greek. Against scholastic orthodoxy, with its committal to the doctrine of the multiplicity of individual souls separable from matter he is prepared to use Averroist weapons, but before all things to appeal, with the stress on the empirical side of the doctrine of the soul, to 'Aristotle and the truth'. The extent of Pomponatius's 'reform of the Aristotelian psychology' is well brought out by Douglas from the material supplied by the commentary on Aristotle's *Treatise of the Soul*, printed for the first time but a generation ago. But it is the tractate *de Immortalitate* on which Pomponazzi's claim to a literary immortality will always rest. Leaving immortality an indeterminate problem for faith he aims at divesting it of all rational grounds and all grounds of Aristotelian authority. It was for this 'truth' that he was prepared to risk life itself, so that only the high-handed protection of Bembo saved him from the translation of the anathema of the Church into fire and stake, and left him to the mere discomfort of refutation by renegade Averroists at the bidding of an unbelieving Pope.

Douglas handles especially well Pomponazzi's defence of the ethical consequences of his doctrine. This section of the tract on immortality is altogether modern in its ring and is still of controversial significance. Here at least there is no necessity for historical research into the meaning of obscure entities such as *intellectus passivus* and *vis cogitativa*. But therefore there is no need of more than analytic power for complete exposition It is rather in his treatment of the *Incantations* that Douglas has and seizes the opportunity for a really effective originality in his vindication of Pomponazzi's astrological explanations from the charge that, on his own premisses, they involve causation no less supernatural and arbitrary than the figments of demonology that he rejects. 'The astral order is in truth the other side of nature.' Under the prepossession of current astrological beliefs in celestial influences permeating nature through and through it was possible to accept of these causes within a fundamental naturalism. Pomponazzi was touched with the positivism of the scientific revolt, if he still coupled a somewhat scholastic 'Aristotle and the truth'.

The treatise *de Incantationibus*, dear to the soul of Robert Burton, had for its occasion certain alleged cures by means of the pronouncement of magical formulæ. Pomponatius's attitude on such matters is, after sifting the evidence, to accept all that is reasonably avouched for. We must not reject simply because we cannot explain offhand by normal material causation. *Stamus experimentis.* But he does not therefore allow the inference to the agency of demons and angels. Rather must we seek, in terms of the subtitle to the tractate, for 'causes of remarkable effects in nature,' *infra limites naturales*. Omens, apparitions and so forth do occur. Not that the dead return to warn us nor that spiritual beings enter into communication with us, but because the hidden machinery of the astral world comes into action through physical media. So it is possible *salvare experimenta*. Pomponatius's rejection of the astral explanation of answer to prayer will interest the modern reader. That explanation could, he

holds, doubtless be defended, but the truth is preferably that prayer is incidental to its own fulfilment, because included with it in one divine purpose. It is not the cause of its accomplishment but is ordained in the course of its execution. On this whole subject, as on that of Pomponazzi's whole view of the symbolism of nature, Douglas has clearly thrown new light.

One or two slips there are in the book, reminders that it lacked its writer's final touches. The discrepancy between the date of Pomponazzi's death given by Douglas's editors, page 1, and that given by Douglas himself, page 70, is one of these. But as a whole the essay is singularly correct, and indeed the fully transcribed citations leave little room for error. What Pomponatius said and thought is laid down clearly and decisively, and on Pomponatius the book is likely to be the last word in English for many years to come.

HERBERT W. BLUNT.

The Presentation of Reality. By HELEN WODEHOUSE, D.Phil., Lecturer in Philosophy in the University of Birmingham. Cambridge: at the University Press, 1910.

This book is described in the introduction as a psychological preface to philosophy. More precisely it is an effort to bring psychological theory into conformity with a definite epistemological doctrine, the doctrine namely that in all cognition there is direct and immediate apprehension of an object by a subject. We must, according to Miss Wodehouse, discard all intermediate 'presentation,' or 'psychical contents,' as distinguished from the known object, and deny the existence of any experience below the objective level. There is no cognitive experience but apprehension, and apprehension must be regarded as a simple activity of reception, unique in kind, and incapable of more or less. The traditional distinction between 'content' and 'object' must be reinterpreted: content is what is known of the object, or as much of the object as appears; the relation is no peculiar relation, but only the 'immense and ordinary' relation of universal to particular, or substance to accident. Finally all varieties of cognition must be distinguished without any subjective reference, solely by differences in the objective contents apprehended.

This rigorous doctrine of immediacy fulfils the two main intentions of the author—it emphasises the intimacy of our contact with real objects, and it relieves psychology from the difficult task of providing any interpretation or schematism to explain the development of simple presentation into knowledge. The question is whether these advantages may not be obtained at too great a cost, a question to be answered only by the success of the application of the doctrine and problems of detail. It is no fair objection to point out that the theory means the end of any psychology of cognition as distinct from logic, for that is a conceivable merit. But I think that Miss Wodehouse has failed in the development of her thesis on two cardinal points—she has been unable either to justify the variety of cognitive experience, or to give any adequate apology for the existence of error. In regard to the first: One great difficulty for such a theory must be the fact of that rearrangement of cognitive content which is implied in volition, and which is the essential activity of artistic creation. If content is wholly objective, alteration of content must be solely objective, and the 'play' of imaginative creation has no sphere within which to operate. Miss Wodehouse thinks she has solved all the difficulty of assumption, if she has distinguished between play-creation, and apprehension of the creation. But the real difficulty is ignored. We may note that her brief discussion of the relation of 'image' to sense

leaves it as 'in the end a mystery'. An equal difficulty for the theory is the existence of doubt, since doubt is no more contact with the real than frustration of such contact. Miss Wodehouse's necessary explanation of it as due to instability of objective content is highly paradoxical in the absence of any metaphysical theory. But more significant perhaps than either of these difficulties is the failure to provide a place for the fact of apperceptive disposition. For how can 'content' be selected if apprehension is simple reception? Miss Wodehouse's explanation of association as habitual transition between successive acts of apprehension does not give much enlightenment or aid; for not to press the point that her right to presume on such cognitive habituation is questionable, it will only explain connexion of contiguity and is far from being adequate for a theory of apperception.

Finally, and most disastrously for such a doctrine, there is the fact of error. If our knowing is an activity of simple reception, reality ought to accept full responsibility for all the content of apprehension. Miss Wodehouse is fully aware of this difficulty which she recognises to the extent of saying that we have no assurance of even a single infallible judgment. Yet she does not weaken in her position. In all cases there is reality enough for the object to appear; it is for us to discover how much more reality it has. This is a plausible remark, but its plausibility rests on an assumption impossible for her, that the appearance is simple appearance, devoid of objective reference. But if erroneous judgment has really such a reference, then the object must not only have reality enough to appear, but reality enough to appear falsely. But if it has reality enough to appear falsely, the false appearance is after all a true appearance. Miss Wodehouse, however, does not pretend to settle the question but prefers to hand it over to metaphysics and be content with a description. Regarding this two remarks may be made: first, that since she has recognised the presentation-delusion of psychology to have sprung from a consideration of error, and yet pretends to be giving a mere philosophical account, this way out of the difficulty is hardly open to her: secondly, that if she has to be contented with a description of error, she must, since every judgment is for her fallible, be content with a description of truth, that is revert to a psychology which still requires a solution for the distressing problem of knowledge.

Such difficulties ignored or postponed would perhaps if duly considered lead Miss Wodehouse to a better understanding of the intention of Dr. Stout's theory of sensation by which she is so greatly perplexed; for that theory is essentially prospective, and cannot be appreciated justly unless so considered.

It would be unjust to conclude without remarking that within its limitations Miss Wodehouse presents her theory ably: she handles logical problems with ease, and her readers will be grateful for the incisiveness and felicity of phrase and illustration that characterise her writing.

L. Brehant.

The Philosophy of the Enlightenment. (The Epochs of Philosophy Series.) By John Grier Hibben, Stuart Professor of Logic, Princeton University, Chicago. Longmans, Green & Co., 1910. Pp. x, 311.

The aim of the series on the Epochs of Philosophy is "to present the significant features of Philosophical thought in the chief periods of its development". No attempt is made to deal fully with any single philosopher or with any particular work: but the general tendencies of each age are carefully analysed and correlated, and their significance as

effective factors in the progressive movement of philosophical thought is specially emphasised.

In the present volume, Prof. Hibben shows the same ability to furnish his readers with a bird's-eye view of the philosophical territory as he showed in his early work on the *Problems of Philosophy*, and, indeed, the *Age of the Enlightenment* is a model of what a work of this kind should be. There is a happy absence of unnecessary biography, and a keen sense of proportion is evident in the amount of attention devoted to minor influences. This economy is specially noteworthy in the admirable paragraphs on Hartly, Priestly, Voltaire, Condillac and Diderot: but the hardened student of Philosophy will probably welcome most the unusually concise account of Christian Wolff, which leads to the important chapter on Kant, and the more detailed attention given to Leibniz, Rousseau and Lessing as his spiritual precursors. The general aim of the series to trace the fundamental unity which characterises the progress of Philosophy through the many phases of its development is well preserved in the volume, and the interest in the great theoretical and practical problems of the age, aroused in the earlier chapters, is maintained and deepened to the very end. Great care is, however, taken that there shall not be read into any author more than legitimately belongs to his general position. Locke is not a rudimentary Kant, although many of his isolated utterances may be interpreted in the spirit of the philosophy of rationalism, nor is Berkeley an immature Hegel because his conception of the soul develops from "a mere congeries of perceptions" to the opinion that "sense or soul, so far as it is sensitive, knoweth nothing". A very instructive feature of the book is the manner in which some of the opinions of Rousseau are shown to foreshadow modern Pragmatism, and the monad theory of Leibniz the modern theories of force, evolution, and psychophysical parallelism as a description of the relation between mind and body. The moral, political, and religious implications of the Aufklärung are well summarised in a final chapter. The book is excellently done, and if any fault does occur to the reader at all it will probably be that the mechanical interests of the period do not occupy a more prominent position in the first chapter. A chronological table of the philosophical books of the epoch, and a copious list of references are an additional merit of the volume.

The Domain of Belief. By Henry George Coke. Macmillan & Co., 1910. Pp. xxxi, 311.

Some years have passed since Mr. Coke wrote his *Tracks of a Rolling Stone*, and those who are familiar with its homely philosophy will be somewhat surprised in the *Domain of Belief* to find their author "sounding the depths" with all the enthusiasm of a professional philosopher. Nevertheless, Mr. Coke is not this, and his book, rightly or wrongly, leaves the impression that he is an amateur, though an interesting amateur in the domain of belief. He has read widely, but on certain well-defined lines, and his interest in Idealism seems to have stopped short on his acquaintance with Kant. In discussion, he is quite willing to listen to the voice of "feeling," and in supporting a position he uses the *argumentum ad hominem* freely.

However, the book is not primarily intended for the experienced student but for the general reader, and, as such, it will appeal to many who take a casual interest in philosophy. Its main object is to substantiate the three great postulates of religion, God, Freedom and Immortality, and in the process, much really profitable knowledge is imparted on the general problems of philosophy, the theory of knowledge, and the

bearing of heredity and instinct on the progress and destiny of man. It is confessedly written to strengthen and promote religion, and it faces the problems squarely. But Mr. Coke's philosophy is built upon a naturalistic basis, and its chief interest for the philosopher will be the attempt which it makes to escape the consequences of naturalism by espousing an agnostic faith. In the end we are bidden to believe in a God, who has only a probable existence, who is neither omnipotent nor omniscient, and yet possesses spiritual attributes remotely analogous to our own. The most valuable part of the book is undoubtedly that in which the author combats the claims of the modern materialists. His knowledge of the current scientific theories of life, matter and force, is full and systematic, and his quotations are always well-chosen and interesting. Like Huxley and Spencer, however, he places his faith on a reality which is inconceivable, but which nevertheless remains the foundation of all appearance. Reality is monistic but unknowable: God exists but His existence lies beyond the power of reason to prove: Immortality is probable but not demonstrably necessary: Evil is incompatible with the omnipotence of God: Matter is co-eternal with God and offers an intractable material upon which He is forced to work. These are some of the positions which Mr. Coke is compelled to maintain by the inherent dualism of his general philosophy, and they prove conclusively the impossibility of holding a vital religious faith based upon an agnostic philosophy. Whatever opinions may be taken upon the book, it is unquestionably readable.

N. Pender Crichton.

The Works of Aristotle: De Generatione Animalium. Translated by Arthur Platt, M.A. Oxford: Clarendon Press.

This translation of the five books *De Generatione Animalium* seems to be in all respects an excellent and serviceable one. The centre of interest, of course, is necessarily considerably removed from the philosophical one; and in this sphere we are forced, as Prof. Platt puts it, to "smile at all the importance attached to 'form' and 'matter'". The notes are fuller, on the whole, than in some of the other volumes of the series. As to their contents, Prof. Platt may be allowed to speak for himself. "With regard to the information in the notes, I have been thankful to get it wherever I could. If some of it is not exactly up to date, it is all at any rate two thousand years later than Aristotle, and compared with that interval of time, what are a few years more or less?" Examination indicates that the annotator holds the scales fairly in judging Aristotle's contributions to the subject, neither over-emphasising his accuracy and "anticipations" of modern views, nor making too much of his inevitable errors of observation. I should like to remark, however, that there are at least two senses of teleology, and that the fact of a part of an animal subserving a "purpose" does not necessarily help out teleology in the other sense. This remark is called for by such notes as that to 717 *a* 15. Some of Prof. Platt's emendations strike me as rather bold, but drastic measures, in this work, are sometimes needed. I might point out that the insertion of words in brackets in one instance (772 *b* 29) rather upsets than improves the sense to one reading it as it stands. But usually the English reads well enough. The translator professes, indeed, that he has sacrificed "all graces of style" to an "endeavour to represent as exactly as possible what Aristotle said or meant to say". But "graces of style" and the *De Generatione Animalium* might not go well together.

J. Handyside.

L'Évolution de la Mémoire. Par H. Piéron. Paris: Flammarion, 1910. Pp. 360. 3 fr. 50 c.

Using the term memory to cover all "the phenomena of persistence of the past shown in the activity and behaviour of living things considered as individuals" (p. 45), M. Piéron in this book proposes to examine the facts of memory as shown by the behaviour of the principal types of animals, and see whether there is continuity in them. He discusses the subject from the purely objective side, which he considers to be the only scientific method of studying it (p. 33), for consciousness is "personal, and for that reason incompatible with scientific generality" (p. 34), and "introspection appears to add nothing useful to what objective research furnishes" (p. 34).

The book is divided into three parts: in the first, plant, animal, and organic rhythms are discussed; in the second, animal memory; in the third, human memory. There is no lack of material; indeed, the author anticipates the reader's first impression of this work when he says that it will probably appear crowded with facts rather than with ideas. The book will commend itself to those who want a good summary of all the more important experiments that have recently been made on the formation of habits in animals, especially as its value is enhanced by the numerous references given on nearly every page.

M. Piéron is obviously most at his ease in the first part of the book. This may be due partly to his having made a special study of the behaviour of plants and the lower animals, partly to the ease with which his objective test of memory can be applied here. As he advances to the study of memory in the higher animals his task becomes more and more difficult, and he does not always keep to his objective test; he writes about experience, mental images, and recognition, which are facts of consciousness, not of behaviour.

He appears to hold a brief for the animal mind, and seldom fails to put the most favourable interpretation on their behaviour, for example, he puts aside all evidence against imitation in cats, dogs, etc., without the least discussion of methods, his object being to prove that these animals have mental images, for he claims that imitation is impossible in their absence.

The title, Evolution of Memory, is misleading, for it suggests the development of complex forms from more simple ones, but there is nothing of this in the book: M. Piéron has merely described the rate of formation of habits by animals of all kinds; he has not attempted to trace the development of the complex out of the simple, as the evolutionist does in the matter of bodily structure. It is doubtful whether such a method would be profitable in studying memory, for memory is a psychological fact, and, as psychology rests ultimately on introspection, it seems preferable to begin with adult human memory, and then, after comparing objective evidence of it with the behaviour of animals, to draw inferences about the memory of the latter.

The best feature of the book is the insistence on the comparison of the objective evidence of memory in man with the rate of formation of habits in animals. The author compares Ebbinghaus's memory curves with those showing the rate at which habits are formed by Limnées, a kind of Gasteropod, and finds them very similar (pp. 139, 259). Much attention has been given by some psychologists to habit-forming in animals; it remains to make similar investigations on man, for curves showing the rate at which an animal finds it way out of a labyrinth are psychologically meaningless until they are compared with those obtained when men are

put under comparatively similar circumstances, and the curves are interpreted in the light of the subject's introspection.

S. Dawson.

Le Année Psychologique. 16me Année. Published by Alfred Binet. Paris: Masson, 1910. Pp. ix, 500. 15 francs.

More than half of this large volume is devoted to papers of Binet and Simon on the definition of the chief mental states of alienation (pp. 62-371). The forms investigated are those of hysteria, "la folie avec conscience, la folie maniaque-depressive, la folie systematisée, les démences, l'arriération," and these six papers are followed by a short summary of conclusions (pp. 361-371). The whole work is concentrated in the form of a table on page 370. It is interesting to notice on pages iii. and iv. of the introduction that Binet has abandoned his much criticised views regarding thought, and has now arrived at the conviction that we do not at all know the difference and the relations that exist between a thought and an emotion. How, then, shall we replace images and words, he asks. In reply, he throws himself with enthusiasm upon the new psychology of the "intentions," or attitudes. Thus he is able to analyse the mental state of the alienated into two elements: the symptom and the attitude, whereby the former corresponds to lower, and the latter to higher cerebral processes or functions. Symptoms are striking and visible, and have, therefore, already been made well known. But a diagnosis based solely on external symptoms is liable to be faulty and mistaken. We must also take account of the attitude of the patient to his symptoms, and it is by a careful study of these that Binet is able to differentiate between the six forms of alienation mentioned above. The rest of the volume is devoted to separate papers, of which all, with one exception, are written by Binet himself. The first, "Les signes physiques de l'intelligence chez les enfants," hardly gets beyond purely negative results. The second paper by A. and A. Binet, entitled, "Rembrandt, d'après un nouveau mode de critique d'art," tries to show that Rembrandt's method consists simply in the art of avoiding great contrasts. "Pour Rembrandt, tout objet éclairé se comporte comme un objet éclairant, qui pénètre de ses rayons les ombres voisines, et contribue ainsi à nous donner la sensation de la vraie lumière" (p. 50). A wholesale condemnation of the methods of the more mediocre and popular art critics is very easy, but it cannot be said that this effort rises much above their level. On its positive side it is much too dogmatic. The following paper by B. Bourdon on tachistoscopic experiments with reaction-times contains nothing really new. To be of any value now, such work calls for much greater elaboration of results and for much fuller introspection than we find here. The last paper is a sharp critical study of the work of Yerkes and Berry and of Henke and Eddy on judiciary diagnosis by the method of associations. Binet calls the method an art, a practice, which presupposes much ingenuity of mind, a sort of prestidigitation, while the results drawn from it must vary enormously with the degree of virtuosity of the "judge" (p. 382). The remainder of the volume contains excellent notices of the more important psychological work of the past year, which are written mainly by Binet, L. des Bancels, and E. Maigre. These reviews are a valuable addition to the volume.

Henry J. Watt.

Les Grands Philosophes—Épicure. Par E. Joyau. Paris: F. Alcan. Pp. 223.

M. Joyau's volume cannot be said to add anything to our knowledge of Epicurus or his system. For a reader who really knows anything of the

sources of our information about Epicureanism it will be sufficient to say that the author is not aware that the great champions of the religious view of life in opposition to the secularism of Epicurus were not the Stoics (who seem not to have been as yet constituted into a regular school when Epicurus settled at Athens), but the Platonic Academy, and that he never so much as alludes to the *Axiochus*. He has consulted Usener's *Epicurea*, but is so far from making a proper use of it that he constantly cites "Diogenes Laertius" as a writer on the life of Epicurus, instead of appealing, as should always be done, to the authorities from whom the often inconsistent notices of Diogenes are drawn. Even so, his quotations are not always exact. "Diogenes Laertius," we are told, "says that he was born at Gargettus; it seems that this is a mistake." Of course it is a mistake, but M. Joyau ought to have told us that we know it to be so because we have the express testimony of Timon of Phlius, an author of the next generation to Epicurus, to his birth at Samos. Moreover, Diogenes does not make the mistake. What he says is simply that Epicurus belonged to the deme Gargettus, and this is correct. Indeed, M. Joyau's scholarship is far from being above suspicion. Oenandra for Oenoanda may be a printer's error, but its occurrence, taken with other matters, *donne à penser*, while the suggestion that Epicurus nicknamed his teacher Nausiphanes, πλεύμων, "à cause de la force et de la beauté de sa voix" (p. 56), is almost too funny for words. M. Joyau, by the way, tries to make light of his hero's ill-bred abuse of his predecessors. He suggests that ill-natured gossips have represented as habitual with Epicurus what were mere occasional outbursts in his unguarded hours. Unfortunately we know the actual context of some of the abuse. The attack on Nausiphanes, for example, is expressly cited from Epicurus's famous manifesto to "the philosophers at Mitylene," an official summary of his doctrines for the benefit of his Ionian friends, and thus cannot claim the indulgence properly allowed to "table-talk".

A. E. Taylor.

Beiträge zur Akustik und Musikwissenschaft. Herausg. von Dr. Carl Stumpf. Leipzig, 1909. Heft 4. Pp. 182.

All the papers contained in these *Beiträge* have been published elsewhere, either in the *Zeitschrift für Psychologie und Physiologie der Sinnesorgane* or in the *Zeitschrift für angewandte Psychologie*. Most of them, therefore, have already received passing notice in the pages of this journal. A more detailed account may be of value to those who are interested in the psychology of hearing and music. For them the collection and republication of the various papers in their present form must prove very welcome.

The first paper is by Stumpf on the recognition of intervals and chords of very short duration. In most of the sittings the duration of the sounds was 225^{σ}. By providing the terminal part of the tube conducting the sound with four right-angle branches, it was possible to obtain judgments from five observers simultaneously. The latter were all highly musical, and independently recorded their judgment in writing, after each interval was sounded. The great certainty of their judgments was remarkable, as was also the preponderance of right over wrong judgments in nearly all the observers. If the occasions in which the intervals were judged as single tones be neglected, the octave was always the interval most often correctly judged and the 12th, 5th and 4th were always high on the list, whilst the 6th, augmented 4th, 11th and augmented 11th, were always low; on the whole, the larger intervals were recognisable with greater difficulty than the smaller.

Next follows a paper by L. William Stern, setting forth the principles of construction and the utility of his well-known 'tone variator'. The chief objection to the instrument is its sensitivity to slight variations in temperature and to accidental fluctuations in the pressure of the air employed to produce the sounds. For these reasons it is impossible to standardise once and for all the pitch of the tones with accuracy.

K. L. Schaefer and Alfred Guttman contribute a paper on the discriminative sensibility for simultaneous tones; these were generally produced from two variators. Starting from unison, one of the instruments was mistuned by one or two vibrations until the subject, sitting in a neighbouring room, was able to say that two tones were present. As was to be expected, the discriminative sensibility for simultaneous tones was found to be considerably less acute than that for consecutive tones. In the middle tone region it amounted to a difference of ten or twenty vibrations per second, and this was the region of maximal sensibility. Beyond d^3 it decreased rapidly; for example, tones of 40,000 and 48,000 vibrations per second, when sounding together, still appeared as one tone although the difference tone was clearly audible. In the case of low tones, at least, much must depend on their purity; if strong overtones be present the subject's judgment may be indirectly influenced by his ability to discriminate between the neighbouring overtones in the two sounds.

The next paper by Stumpf is based on the consideration of a number of valuable and interesting curves of compounded wave forms drawn for him by Frau and Dr. Schaefer. Sinus waves in such length ratios as 1 : 2, 1 : 3 . . . 1 : 12, 2 : 3, 2 : 5, 2 : 7 . . . . . 2 : 11, 3 : 5, 4 : 5, etc., are compounded and the resultant waves are drawn. The composite curve 2 : 3 is drawn with the components in various phase relations to one another, and the curves 3 : 8 and 5 : 8 are drawn in various amplitude relations of the components to one another. Consideration of these composite curves gives no adequate explanation either of the high value of the discrimination threshold for simultaneous tones nor of the well-known fact that the higher of two simultaneous tones needs much less weakening than the lower before it becomes inaudible. It does show, however, that the number of beats (or relatively highest beats) given by tones more than an octave apart, obeys a very different rule from that determining the pitch of the difference tone, and consequently affords another argument against König's view that beats, when sufficiently rapid, pass over into difference tones.

The next paper is a criticism by Stumpf of Krüger's theory of consonance and dissonance, according to which dissonant intervals always contain, at least at one point, a confused, rough and beating tone mass, which is the beating intertone formed among near-lying difference tones of different orders, while in consonant intervals the various orders of difference tones to a certain extent coincide, and preserve the same relation to one another as the harmonic overtones of a fundamental. Thus, according to Krüger, consonances give the feeling of familiarity, clearness and simplicity, while dissonances come to be regarded as mistuned consonances and give the impression of strangeness, roughness and complexity.

Stumpf retorts that there are highly dissonant intervals, the difference tones of which lie too far apart to beat with one another. The interval 800 : 1100, for example, gives according to Krüger's orders of difference tones, the difference tones 100, 200, 300, 500; none of which can be held to beat with any other or with the primary tones, forming intertones. Various other intervals (11 : 15, 13 : 18, 5 : 7, 12 : 17, 9 : 14, 7 : 11, 11 : 14, 7 : 9, 9 : 11, 10 : 17; 5 : 9, 3 : 7, etc.) are cited as evidence that Krüger's definition of dissonance is by no means always fulfilled.

Stumpf's second objection is that dissonances can still be recognised as such, when the difference tones and beats are rendered so feeble (this may occur when one tone is led to one ear, the other to the other) as to be nearly or quite inaudible.

In the next paper Stumpf gives an account of the Spanish musical prodigy, Pepito Arriola, at the age of six and a half years.

Then follows a most interesting paper by von Liebermann and Révész, in which the former was the chief subject of investigation. In 1905 he suffered from two attacks of aural disease, sequelæ to typhoid fever. The most characteristic feature of his condition was a false perception of pitch of certain tones. To determine the pitch of these 'pseudotones,' as he calls the resultant subjective disturbances, the corresponding objective tone was sounded successively with various other objective tones; the interval d^2-d^3 was recognised as a minor 10th, f^2-d^3 as an octave, g^2-d^3 as minor 7th, b^3-d^3 as a 5th. Hence d^3 evidently produced the pseudotone f^3. This was further proved by the subject rejecting the interval as d^1-d^2, and accepting d^1-f^2, as being the same interval as d^2-d^3. In the two attacks, the range of tones, affected in this way, varied considerably. It was also found that the pitch of the pseudotones varied from hour to hour, approximately through a semitone, and also with the instrument employed. It was found that beats were determined by the objective pitch of the sounds and were independent of their subjective pitch.

The authors of this paper make the striking statement that in their two subjects (a second subject was later available) the total impression of a chord is independent of the subjective pitch of the component tones when they are presented successively. For example e^2 when sounded successively with e^3 appeared as a minor 9th; that is to say e^3 was perceived as the pseudotone f^3. Yet when e^2 and e^3 were sounded simultaneously, the interval was judged to be an octave. Similarly a^2 and e^3, sounded successively, appeared as the minor 6th, g^2 and e^3 as the minor 7th. Yet, when sounded simultaneously, these pairs were recognised as being respectively a 5th and major 6th. The authors assert that the consonance of the interval is not affected by the subject's analysis of the chord whereby he hears the tones as pseudotones. If we accept Helmholtz's theory, we must suppose that certain of the resonators have become mistuned but that the total impression, corresponding to the degree of fusion or consonance, is independent of this mistuning.

A very valuable series of experiments by Wolfgang Köhler forms the subject of the next paper. He succeeds in fastening a very light mirror, weighing 17 milligrams, on the tympanic membrane of the living person and in photographing, by means of a beam of reflected light, the movements of this membrane. He finds that the movements could be classified under five heads: (1) movements due to accidental head movements, (2) movements due to swallowing, (3) movements due to the pulse in the tympanic membrane, (4) movements due to auditory reaction, which are of two kinds, (*a*) a simple inward movement immediately on the reception of the sound stimulus, and (*b*) oscillations corresponding to the vibration rate of the stimulus. Köhler's researches leave little room for doubt that the effect of an auditory stimulus is to cause a prolonged contraction of the tensor tympanic muscle, thus reducing the amplitude of the vibratory excursions of the membrane which it executes in response to the stimulus. The muscle remains in tetanic contraction so long as the stimulus continues unaltered in strength. Contrary to previous less satisfactory investigations, Köhler finds that variations in intensity, not in pitch, are responsible for the different degrees of retraction of the tympanic membrane. Hence Mach's and Heinrich's accommodation

theory must give way to Johannes Müller's protection theory of the function of the *tensor tympani* muscle.

The second part of Köhler's work concerns the nature of timbre. He uses the illuminated tympanic membrane of the living ear to obtain curves of the sounds of the trumpet, the horn and the tenor trombone. His conclusion from the analysis of these curves is in favour of Helmholtz's theory of timbre, and is in opposition to the recent hypothesis put forward by Hermann-Goldap that overtones of approximately constant pitch are present in the tones of any one instrument and that these constant overtones are the cause of the peculiar timbre of the instrument.

Finally, Köhler studies the vowel character of different tones. He points out that high tones have clearly an I character, the low a U character, and that intermediate tones played quickly in ascent give O, A and E (all pronounced in continental fashion). He concludes that vowel character is something quite different and separable from pitch and timbre, and that every vowel contains tones of definite pitch which are responsible for its vowel character.

C. S. Myers.

Beiträge zur Akustik und Mussikwissenschaft. Herausg. von Dr. Carl Stumpf. Leipzig, 1910. Heft 5. Pp. 167.

The greater part of this number is devoted to a paper by Stumpf embodying the results of his most recent investigations on combination tones. These, in many important respects, contradict the results of Krüger, whose work has hitherto been the most exhaustive and generally accepted. According to Stumpf, the higher orders of difference tones are formed independently and directly from the primary tones, not as difference tones from the interaction of the lower difference tones or from their action on the primary tones. Indeed, Stumpf so far disagrees from Krüger as to add orders of difference tones (*e.g.*, 2 h-l, 3 h-2 l, when h and l are the vibration frequencies of the higher and lower primary tones) which the latter has never recognised.

The concluding paper is by von Hornbostel on comparative acoustic and musico-psychological investigations. This gives an excellent summary of the kind of work which has already been undertaken in this field, and suggests many further directions in which inquiry is likely to bear valuable fruit.

C. S. Myers.

Theorie der kinematographischen Projektionen. Von Karl Marbe. Leipzig: Barth, 1910. Pp. 80, 8vo. Price, marks 2.40.

This useful little book endeavours to show the bearing of certain physiological and psychological investigations and their results upon the technique of the cinematograph. Marbe has pursued the study of the phenomena that fall under Talbot's law and the factors that affect the moment of disappearance of flicker zealously for many years and has already expounded his own extensive results along with those of other less persistent workers in *Pflugers Archiv*, vol. xcvii., 1903. Talbot's law is of such wide validity and of such importance to physiologists that a fresh summary of main facts and theory should be heartily welcome. To these Marbe adds new observations on the perception of movement (pp. 57-74). At the same time all the exact knowledge bearing on the theory of flicker is made available in simple, clear, generally intelligible form for those who otherwise desire to acquire expert technical control

of the cinematograph. For the sake of the scientific reader, however, it may be noted that Marbe has not treated the perception of flicker by binocular, as distinguished from uniocular vision, nor has he attempted to bring their differences or similarities of function into relation to his theory of Talbot's law or *vice versa*. The special consideration of the needs of the cinematograph, of course, hardly called for this.

H. J. Watt.

Über den Traum : Experimental-psychologische Untersuchungen. Von Dr. J. Mourly Vold (late Professor at the University of Christiania). Ed. by O. Klemm. Leipzig : J. A. Barth, 1910. Vol. i., Pp. xiii, 435. Price, marks 11.

Prof. Mourly Vold died in 1907. During a period of twenty-five years he had collected a large number of records of experiments on dreams. So extensive are these, that the present volume will be followed by a second. One cannot but admire the way in which these experiments were carried out. Although there is nothing really new in the methods or devices used, it may be noted that they are all thoroughly accurate and well founded. Vold made systematic use of comparisons between dreams which resulted under experimental conditions and those that occurred under ordinary circumstances, and was thus able to give a very clear characterisation of the effect of certain stimuli upon the formation of dreams. He deserves the credit of being the first to apply this strict method to the evanescent phenomena of dream life. The effect of certain stimuli applied to the skin or joints of the lower extremities and kept continuously in action during sleep was carefully traced by the enumeration and counting of all the elements of the dream-experiences which could be referred to the action of these stimuli, in so far, at least, as these were preserved in very careful reports made immediately after waking. The long list of questions which formed the skeleton of each report is given on pages 31-36. The editor has, however, unfortunately, put an undue restraint upon himself in dealing with the very broad form of exposition used by Vold.

In the first series of experiments (pp. 61-215), which consisted of the normal and experimental dreams of nineteen students on two successive nights, it was found that the experimental dreams contained two and a half times as many elements referring to the lower extremities and therefore evoked by the stimulus—a band round the ankle. Several classes of cutaneous and especially of motor elements were distinguished. Of the latter the most important were active rhythmical movements of the limbs or static plantar positions, of which the experimental contained twelve times as many as the normal series (*v.* pp. 214 f.). It is curious to find (p. 252), that the stimulation of both of the lower extremities by constriction produces in the resulting dream a sense of passive movement. In the third series of experiments both feet were contricted and bound together. The dreams which followed contained a new symptom with double reference to the feet, *e.g.*, elevation from the toes, as well as the previous passive movement of the whole body. Rhythmical movements, on the other hand, such as running and dancing, were much less pronounced. Purely sensory elements evoked by the stimulus were not frequently found and the exceedingly frequent motor ideas were seldom referred to the circumstances leading to the experiment and therefore to the dream. The results of these experiments must not, of course, be rashly generalised, but they contain, at least, the promise of a welcome release from the vagaries of interpretation advocated by the school of Freud. And yet it seems a pity that so much

ingenuity, exactness and patience as is shown by Vold in all this work, should not have been directed upon a better object than the events of dream-life.

H. J. Watt.

Il Diritto nel Mondo dello Spirito. Da Igino Petrone, Libreria Editrice Milanese. Milan, 1910. Pp. 197.

The author of this book is Professor of Moral Philosophy at the University of Naples; but his affinities are less with the Hegelianism for which Naples has long been famous than with the neo-Fichtean school of thought. In this work, at any rate, he founds the philosophy of right on the primary act of self-consciousness. As I become aware of myself and of my cognitive faculties by reaction against a world which is not myself, so by a higher effort of spirituality I come to the consciousness of myself as a free agent, a being possessed of natural rights through the recognition of other beings co-ordinate with myself, equally free, equally possessed of individual rights, and constituting together with me a spiritual world.

According to this view, the State, conceived ideally, comes into existence as an institution having for its end to secure the citizens composing it in the enjoyment of their several rights, among which the possession of property takes rank directly after personal inviolability. It then becomes necessary to define what power the State should possess in order to the enforcement of perfect justice among its citizens. Prof. Petrone, starting from a point of view which seems to have nothing in common with Benthamite utilitarianism, seems to agree with the Benthamite John Austin that the State, to fulfil its end, must be omnipotent. But, so far, not a hint is given as to the safeguards whereby this omnipotence is to be secured against abuse. Indeed there would seem to be something like a self-contradiction in their institution. Yet that the State should be necessary at all argues an imperfection in human nature which the rulers, being human, must share with their subjects. It seems then inadmissible, at least from an ethical point of view, that the State should claim the unlimited obedience of its citizens.

Again, Prof. Petrone has not been more successful than any other *a priori* constitutionalist, either in identifying the right to property with the right to individual liberty; nor, so far, has he attempted to adjust their respective claims as principles of legislation. He must know that 'the liberty of each bounded only by the equal liberty of all' has by his predecessors been made the basis not merely of incompatible but of directly contradictory systems. Fichte argued that the State could not guarantee the liberty of the citizen unless it guaranteed him also a certain amount of property; and he went on to provide for the needs of individualism by the most rigid system of Commercial Protection ever framed. From the same premises Herbert Spencer first deduced the nationalisation of land, and afterwards its private ownership, while maintaining from first to last the unqualified moral obligatoriness of Free Trade. The *a priori* method is in truth a 'leaden rule,' capable of adaptation at will to demonstrate any system of Right.

A. W. Benn.

Diritto e Filosofia, I. : Criteri Preliminari circa il Metodo. Da Michele Barillari. Tipografia della Università. Naples, 1910. Pp. xii, 200.

For a method of studying the philosophy of law—and indeed, for that matter, of studying all philosophy—Signor Barillari goes back to Vico.

According to him the quintessence of all wisdom is contained in the formula of the celebrated Neapolitan thinker: Truth is an act; the criterion of truth is its realisation in action (*Il vero è il fatto. Criterio certo del vero è farlo*, p. 171). Or as Vico puts it in words not quoted by this author: Man knows what he makes. On the strength of this principle Signor Barillari puts up Vico as not only anticipating Kant but as going beyond Kant to Schelling and Hegel. Now all this sort of thing strikes one as not merely provincial but even as rather childish. Vico had extraordinary abilities; but he was not precisely what some of his countrymen seem to regard him as—the greatest thinker that ever lived. The words quoted above are merely an epigrammatic summary of what he had learned from the *Republic* of Plato and the experimental method of Bacon. And the epigram is only very partially true. Man does many things without understanding how he does them; and he knows many truths that cannot be verified experimentally. Nor has Vico anticipated Kant, still less Schelling and Hegel. Kant did not merely say that geometry was demonstrably true because we prove it by constructing geometrical figures, but he argued the other way round that our certainty about the properties of space proves space to be a subjective creation—an idea, true or false, which never entered Vico's imagination.

In one way the author might have profited better by the example of his model and guide. Like Rousseau and Wordsworth, Vico seems to have read only a dozen books in his life. But he knew those few books thoroughly and used them to the best advantage. Signor Barillari has read many books and the titles of many more, with the result of getting his mind thoroughly confused over their meaning. The second part of his book is an attempt to deal with the literature of the philosophy of law as illustrating the two fundamental methods supposed to be reconciled by Vico and himself. But his survey is neither complete nor accurate nor systematic. The great name of Montesquieu does not occur in the index, nor do I remember meeting it in the text. The account of Greek Sophisticism on page 41 is thoroughly false and antiquated. If the English authorities containing the modern interpretation were not accessible to this author he might have learned it from the writings of his countryman and colleague, Prof. Chiapelli. Then we find Austin coupled with Gumplowicz as a supporter of the theory which identifies right with might—Austin, whose comment on Louis Napoleon was: 'the man is a scoundrel!' Utter ignorance is shown of the fact that Hedonistic Utilitarianism was created by Plato. Generally speaking, the historical sections of this work may be described as having for their object not to teach truth but to advertise the writings of the author's Italian contemporaries.

A. W. Benn.

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IX.—PHILOSOPHICAL PERIODICALS.

PHILOSOPHICAL REVIEW. Vol. xix., No. 4. **A. Lalande.** 'Philosophy in France, 1909.' [Calls attention, first, to three phases of literary activity in the philosophy of religions: (1) Boutroux' *Science et religion dans la philosophie contemporaine;* (2) Durkheim's work on the classical theories of the origin of religious thought, with the related articles by Belot (*La triple origine de l'idée de Dieu*) and Lalande (*L'idée de Dieu et le principe d'assimilation intellectuelle*); and (3) Durkheim's *Sociologie religieuse et théorie de la connaissance,* with the related work of Lévy-Bruhl, *Les fonctions mentales dans les sociétés inférieures.* Turns, secondly, to the philosophy of science, with special emphasis upon Brunhes' *La dégradation de l'énergie* and Meyerson's *Identité et realité.*] **J. E. Boodin.** 'The Nature of Truth.' [Truth is an adjective of thinking, and has no meaning outside of systematic judgment. Pragmatism has been occupied with the function of truth; to understand its nature, we must go to the laws of thought. (1) Four postulates are implied in all thinking, and condition its procedure: the law of consistency, which includes the old logical laws of identity and contradiction, and also brings out the fact that we have to do with identity within a variety of individuals and changes; the law of totality, which includes the law of sufficient reason, but is broader, stating that facts are not isolated but belong with other facts; the law that truth must be representative, or that it presupposes the subject-object relation; and the law of finitude. (2) What is the basis of their authority? Epistemologically, only the argument that we cannot think at all without implying these postulates establishes a universal for their necessity; we must show that there can be no negative instance without making truth impossible; the process is circular, but brings out the implication. Ontologically, the postulates must be treated as hypotheses to be verified in the procedure of experience; if truth is found to be possible, then in so far the presuppositions are ontologically valid. It follows that there is no difference of priority or primacy between these laws: each one holds for all thought and includes itself as well as the others. (3) We may sum up the place of thought in the economy of life by saying that it is an activity of the will, predetermined as regards its form by certain presuppositions which are posited by the will to think.] **C. V. Tower.** 'A Non-Dualistic View of Natural Selection.' [The phrase 'natural selection' is unhappy, since natural has meaning only as opposed to supernatural, and selection misleadingly emphasises one factor in the general requirement of adaptation or conformity to environment. Yet there are obvious analogies, that justify the transference of the phrase to ethics. (1) Let us consider the objections. Natural selection is soulless, mechanical, careful only of the type: but conformity to type is also the condition of individuality. We progress by deliberate selection and rejection of ideas: but, if natural selection is not a theory of causes but the effect of aggregated causes, these may be teleological. Natural selection presupposes variation: but

this favours its ethical application. It is relative to environment: but environment consists, in part, of the effort of adjustment made by the individual. (2) Rightly understood, then, natural selection furthers, by its negation of maladjustments, efficiency for the performance of those functions which society is selecting in its progressive definition of life in terms of function; life and personality become one, though the end is better defined in terms of personality than in terms of life. Natural selection, negating the individual as opposed to the type, favours personality; to be all that men are would satisfy the conditions of unique individuality and ideal personality far more than to be what no other man is.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes.—Vol. xix., No. 5. **O. Ewald.** 'German Philosophy in 1909.' [Kant is still the central figure in discussion, and attempts are constantly renewed to retravel, on a new basis, the path that led from Kant to Hegel. There has been, however, a marked turn from epistemology to metaphysics, shown *e.g.* in Windelband's *Der Wille zur Wahrheit*, in Rickert's *Zwei Wege der Erkenntnistheorie*, in the German translations of Croce and Bergson, and (in a different way) in the collected works of Spir. Pure logistic is exemplified by the recent publications of the Fries school, and by Pichler's *Über die Erkennbarkeit der Gegenstände*; it is opposed, from within, in Michaltschew's *Philosophische Studien*, which may serve at the same time as introduction to Rehmke's *Philosophie als Grundwissenschaft*. On the historical side are to be mentioned Windelband's *Die Philosophie im deutschen Geistesleben des XIX. Jahrhunderts*, new issues in the *Philosophische Bibliothek*, and various works on Nietzsche.] **E. P. Howes.** 'The Study of Perception and the Architectural Idea.' [The problem of beauty is philosophical; the problem of æsthetics is psychological and physiological. In architecture, this latter problem has been neglected, save for Lipps' theory of empathy. Yet the manner of solution is given with the insight that perception is a matter, primarily, of responses and reactions. The study of perception is the study of the moulding of our attention (response and reaction) by the behaviour of things; architecture is the art of the behaviour of things; the reactive elements in perception are immensely reinforced by the real bodily presence of the architectural forms; so the presence of real forces in the object makes a difference in our image of it, and the element of structure is directly felt, like distance or solidity. The special questions that centre about this feeling then open up a whole field of experimental æsthetics.] **R. A. Tsanoff.** 'Schopenhauer's Criticism of Kant's Theory of Ethics.' [(1) Schopenhauer brings two main criticisms against Kant: first, that Kant's moral law, if it is to have concrete significance, must derive its ultimate sanction from human experience; as it stands, it is hypothetical, a mere finger-post, pointing behind and ahead to other considerations; and, secondly, that the Kantian ethics is only an abstract reformulation of the old theological morality, and like this is at bottom egoistic. (2) He himself finds three springs of human conduct: egoism (non-moral or immoral), malice (immoral), and compassion or sympathy (moral). The metaphysical basis of sympathy lies in the fact that, when we recognise the illusoriness of the distinction between the ego and the non-ego, we experience reality as it is in its essence. (3) Schopenhauer is right in his appeal to experience, but his own mystical realm of self-renunciation is, after all, no more concrete than is Kant's noumenal kingdom of ends. His morality is that of oriental meditation, the ethics of Jesus; Kant's is the morality of the Hebraic spirit, which deified law. If the latter means Puritanism, the former means race-annihilation. (4) Ethics must study man, but for what he ideally is in his concrete totality; no single formula, virtue or happiness

or sympathy or self-assertion, is adequate to ethics ; man's emotional and volitional nature must be ideally transfigured into a motive power for the realisation of his complete self.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes.—Vol. xix., No. 6. **G. N. Dolson.** 'The Philosophy of Henri Bergson—I.' [The conceptions of duration as the ultimate reality and of intuition as the instrument of true knowledge lie at the root of Bergson's metaphysics and epistemology. By their aid he seeks to show that philosophy, science and common-sense consist of that intellectual construction of reality which is best suited to our practical ends, while from intuition he would wrest a metaphysic which shall be the living truth. (1) *Space and time.* Real space is without duration ; in it phenomena appear and disappear simultaneously with our states of consciousness. Real duration is made up of heterogeneous moments, all interpenetrating one another, but where each moment may be brought into relation with a contemporaneous event of the external world, and by this relationship is separated from the others. From the comparison of the two realities is born the symbolic representation of duration, which depends upon space. (2) *Perception and Memory.* Matter is the whole sum of images ; such portions of this latter as are related to the possible action of my body constitute perception, which is thus a selected part of matter, and belongs to the object rather than to the subject. Memory is idea with no motor elements ; it belongs to duration, to the eternal flux ; lesion of the brain cuts off only the motion by which memory enters consciousness and thus externalises itself. (3) *Freedom.* Determinism and indeterminism, mechanism and teleology, all alike rest upon intellectualised concepts, and are thus inadequate, though the libertarian and the teleologist are nearer the truth than their rivals. True liberty is to be found in a certain quality of the action, not in the relation of the act to what it is not or to what it might have been ; deliberation is a dynamic progress of the ego and its motives. (4) *Life and reality.* The development of life is the history of reality ; we must work out a philosophical interpretation of the scientific theory of evolution, which regards life as a spontaneously developing activity. The vital impulse is checked in two ways : by the inverse motion of matter, and by the limit of possible action, *i.e.*, by intellect. (5) *Instinct and intelligence.* Intelligence represents the spatial, the immobile, the discontinuous ; it can form categories, analyse, catalogue, and make all this into an instrument of action. Instinct knows only continuous motion ; it is in direct contact with reality, moulded on the very form of life, but its knowledge is not intellectually expressible. In feeling and will, sympathy and antipathy, we come nearest to it. Intuition is instinct become disinterested, self-conscious, and capable of reflection.] **B. H. Bode.** 'Objective Idealism and its Critics.' [Objective idealism is transcendentalism ; the analysis of experience is held to reveal an element that holds over from moment to moment, Idea, Thought, the universal, the element of mediacy, identity in difference. Then, as regards realism, the issue lies in the question whether the relation of the experiencing subject to the objects of experience is essentially additive or organic ; as regards pragmatism, in the question whether this relation, admittedly organic, must or can be interpreted in transcendental terms ; as regards both, in the question of the method and assumptions whereby the conclusions of transcendentalism are obtained.] **E. C. Spaulding.** 'The Logical Structure of Self-refuting Systems: II. Ontological Absolutism.' [These systems exclude the external view of relations, and the constitutive interpretation of the internal view ; accept or argue for the interpretation of this view in terms of an underlying reality ; choose the cognitive relation as the centre of manipulation ; make the nature of the underlying unity like that of some

aspect of self, ego, etc., which is held to be involved in this relation ; and conclude that the underlying unity manifests itself in conditions, etc., all other existence. Illustrations are given ; and the proof of self-refutation is conducted on the lines laid down in the paper of vol. xix., 3.] Discussion. **R. A. Tsanoff.** 'Prof. Boodin on the Nature of Truth.' [Thought either sums up the essence of metaphysical reality, or is a sport of the will to think. In the former case, there can be no adequate recognition of the non-cognitive aspects of experience ; in the latter, metaphysics is necessarily irrationalistic. This is Boodin's dilemma. In fact, thought is the rational activity towards ever-progressive organisation, which essentially characterises the only reality we can be concerned with, that of concrete intelligible experience.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes.

Psychological Review. Vol. xvii., No. 4. **F. M. Urban.** 'The Method of Constant Stimuli and its Generalisations.' [Condensed presentation of topic treated in the *Arch. f. d. ges. Psychol.*, xv. and xvi. The purpose of the psychophysical measurement methods is an analysis of the material conditions which determine our judgment on the comparison of stimuli, but for this purpose an understanding of the formal conditions of these methods is needed. The method of just perceptible difference, when looked at as a method of calculation, is only formally different from the method of constant stimuli ; both methods give the same results.] **S. S. Colvin.** 'A Marked Case of Mimetic Ideation.' [The writer's ideational type is that of Stricker and Dodge, with the addition that his motor thinking is commonly dramatic or mimetic. The mimetic ideation may be either concrete (representative or ideographic) or entirely symbolic. All meaning is attitude, *i.e* , in the last resort a motor affair ; and this general dependence of experience for its significance upon motor adjustment has, in this case, left a deposit of kinæsthetic mind-stuff that symbolically and ideally represents concrete situations.] From the University of California Psychological Laboratory. **G. M. Jones.** 'xi. Experiments on the Reproduction of Distance as Influenced by Suggestion of Ability or Disability.' [A visual point-distance was exposed, and reproduced by the setting of pegs, under visual, vocal and auto-suggestions of ability and disability. The constant error was always, and the variability usually, greater with any mode of suggestion than without. The negative were about twice as effective as the positive suggestions. Vocal negative suggestion gave the greatest constant error, vocal positive the least ; visual negative suggestion gave the greatest variability, while here the positive auto-suggestion had as little effect as any.] **E. K. Strong, Jr.** 'xii. The Effect of Various Types of Suggestion upon Muscular Activity.' [Test of strength of grip, under visual, vocal and auto-suggestions of strength and weakness. Suggestion as a whole heightens the maxima, auto-suggestion being most effective ; there is no clear difference of (positive) result as between the positive and negative suggestions. It seems, then, if we compare the outcome of these and the foregoing experiments, that for accuracy of work all suggestion is harmful, but that for amount of work anything that serves as a stimulant to the attention is useful.] **G. M. Stratton.** 'xiii. The Localisation of Diasclerotic Light.' [Repetition of Veraguth's experiments, with the result that, temporally forward stimulation is localised on the same side, backward stimulation on the opposite side, while stimulation of the intermediate region gives double localisation ; and, nasally, all stimulation tends to be localised on the opposite side, though stimuli well forward may be placed on the same side. Explanation : temporally, light falling posteriorly to the *ora serrata* arouses the subjacent retina, and is thus

localised, as a figurate sensation, on the opposite side; light falling anteriorly is diffused through the bulb, strikes the opposite side most intensely, and is thus localised, as a diffuse sensation, on the same side; nasally, the forward reach of the *ora serrata* means that practically all entering light strikes adjacent, if not subjacent retina; there may also be reflection from the peripheral surface of the lens. In all cases, therefore, the localisation is based on the positions which objects normally occupy when stimulating the different parts of the retina.]

American Journal of Psychology. Vol. xxi., No. 4. **E. C. Rowe.** 'Voluntary Movement'. [Aims to characterise the cognitive aspect of experience in voluntary movement. After a review of previous work, the writer describes experiments (writing ten standard words on an apparatus resembling a typewriter; writing with the hand under novel conditions and also with distraction) designed to yield introspective reports of the cognitive processes involved, and especially to trace the course of automatisation of a highly volitional series of acts. He then discusses certain anatomical, physiological and pathological data, bearing on the rôle in voluntary movement of the centripetal impulse and of sensation, and finally arrives at a theory of voluntary movement itself. Feeling doubtless initiates many voluntary activities; but voluntary movement is neither a matter of initiation of movement nor a peculiar species of movement; it is essentially a form of control, and only as such differs essentially from other forms of movement. Biologically, it is a peculiarly individual form of adaptive control; psychologically, it is a kind of movement in which sensory or ideational processes are of necessity functionally present; instinct becomes voluntary in direct proportion as the cognitive processes gain in clearness; the first control in learning a new movement is always gained by attention picking out certain elements, which in their own first appearance were entirely functionless.] **T. Okabe.** 'An Experimental Study of Belief.' [Experiments by the method of systematic introspection (presentation of sentences singly and for paired comparison). Two modes of the belief-consciousness were found, the explicit and the implicit. In the former, belief is carried by such things as internal speech, a represented gesture, the disposition of visual imagery, supervening upon the previous consciousness of understanding. In the latter, there is no specific vehicle of belief; belief inheres in the course or procession of consciousness as determined by the instruction to believe: a similar implicitness or inherence has been demonstrated also for assurance, recognition, intention and volition. The psychological opposite of belief is not disbelief, but doubt. A new feature of the method is the submission to the observers, at the end of the work, of a condensed summary of their introspective reports, which they may then accept or amend.] **L. R. Geissler.** 'A Preliminary Introspective Study of the Association-reaction Consciousness.' [With insignificant words, the general state of consciousness is attentively stable; with significant, it is extremely labile. Many of the processes occurring during an experiment (in this case, notably internal speech and local kinaesthesis) are wholly indifferent to the presence or absence of a complex. The complex itself is a strongly unpleasant group of ideas (connected with the concealed object), reinforced by organic sensations, and characterised by a quick change from focal crowdedness through a momentary blank to the dominance of a single focal idea.] **E. B. Titchener** and **L. R. Geissler.** 'A Bibliography of the Scientific Writings of Wilhelm Wundt.' [Second supplementary list.] The **Editors.** 'William James.'

'Journal of Philosophy, Psychology and Scientific Methods. vii., 23. **A. W. Moore.** 'How Ideas Work.' [Ch. v. of the author's *Pragmatism and its Critics.* Discusses whether it can be held that 'ideas work because they are true,' and is in the main a criticism of realism, as absolute idealism does not on this point depart from realism. It does not believe that human ideas can alter reality.] Discussion between **R. B. Perry** and **H. C. Brown** about the 'Program of the Six Realists' in vii., 14. *Cf.* vii., 18.—vii., 24. **D. S. Miller.** 'Some of the Tendencies of Professor James's Work.' [A long and well-written appreciation, which however steers clear of controversial points.]—vii., 25. **S. J. Franz.** 'On the Association Functions of the Cerebrum.' [It is becoming probable that Association-areas may be located both in the frontal lobes and in the so-called posterior association-area.] **A. O. Lovejoy.** 'The Place of the Time-Problem in Modern Philosophy.' [Idealistic eternalism rests on "a deep-reaching confusion of conceptual time with the real time of our inner life—of thinking about a transition with the transition itself".]—vii., 26. **J. E. Russell.** 'Realism a Defensible Doctrine.' [Royce's polemic does nothing "to establish the monstrous proposition that the real beings of the pluralist are absolutely unrelated beings," Taylor's tells against himself, and the only proof on the subject must be pragmatic.] **H. L. Hollingworth.** 'The Oblivescence of the Disagreeable.' [It is a psychological law of life, despite the inferior wealth of the vocabulary for the agreeable.]—viii., 1. **H. B. Alexander.** 'The Goodness and Beauty of Truth'—I.; viii. 2—II. [On the problem of evil; representing a view that is "Manichæan and unorthodox, for it represents evil as real and God as a struggling God, hating sin because sin is a cosmic danger, and hating ugliness because the creation of beauty is not complete". It is "unorthodox but it may be that God himself is not orthodox". "The God who is the sum of perfections was Greek and Hindu before he was Christian, and the intolerable burden of Christian theology has ever been its notion of an omnipotent and omniprescient creator who could frame a cosmos with such a core of evil that he must sacrifice for its redemption." But "omnipotence and omniscience are out of place in the drama of redemption, and so the hero of this drama is never the all-powerful creator but always his human and suffering delegate". Thus the Manichæan view gives the only square and downright solution of the problem of evil while "metaphysical trinitarianism" is "bankrupt".] Discussion between **H. S. Shelton** and **B. Bosanquet** as to whether the 'philosophic' conception of 'cause' as 'ground' is or is not scientifically worthless.

The Sociological Review. Vol. ii., No. 4. **Laurence Gomme.** 'Sociology the Basis of Inquiry into Primitive Culture.' **B. L. Hutchins.** 'Woman's Industrial Career.' **Francis Hoggan.** 'The American Negro and Race Blending.' **R. H. Tawney.** 'The Theory of Pauperism.' **Ernest Roberts.** 'Natural Vicissitudes and the Social Organism.'—Vol. iii., No. 1. **W. H. R. Rivers.** 'The Genealogical Method of Anthropological Inquiry.' **Rev. Prof. Caldecott.** 'International and Inter-Racial Relations.' **C. Delisle Burns.** 'The Religious Order in the West.' **Sybella Gurney.** 'Civic Reconstruction and the Garden City Movement.' **Graham Wallas.** 'The Beginning of Modern Socialism.' Discussions, etc.—Vol. iii., No. 2. **Frederic Harrison.** Presidential Address: 'Sociology—Its Definition and its Limits'. **J. A. Hobson.** 'The General Election: a Sociological Interpretation.' **Hon. Justice Sankaran Nair.** 'Security of Property under Indian Law.' **S. K. Ratcliffe.** 'Sociology in the English Novel.' **E. J. Urwick.** 'Sociology and Social Progress.' Discussion, etc.—Vol.

iii., No. 3. **Sir Horace Plunkett.** 'The Sociological Aspects of the Agrarian Revolution in Ireland.' **J. H. Muirhead.** 'Liberty, Equality, Fraternity.' **Grace Kerneys-Tynte.** 'The Doctrine of Laissez Faire —I.' **Israel Cohen.** 'The Jewish Community.' Discussion, Notes, Reviews, etc.

Archives de Psychologie. Tome ix., No. 4. **A. Leclère.** 'La vanité de l'expérience religieuse.' [As philosophy has become secularised, and has ceased to pay court to theology, those thinkers who cling to theological doctrines have sought to ally themselves to inductive science, and have worked out systems of a quasi-experimental character. The thesis of the present paper, which is closely related to that of the author's recent book, *Pragmatisme, Modernisme, Protestantisme*, is that religious experience, the internal religious experiment, cannot be compared with the experiment of science; "interesting as it is from the point of view of psychology and history, it is literally empty, altogether valueless, from the point of view of epistemology—and fortunately so, since, if it could prove anything at all, its proofs would be as demonstrative against faith as for faith".] **P. Bovet.** 'La conscience de devoir dans l'introspection provoquée; expériences sur la psychologie de la pensée.' [The writer repeated the work of Messer and Bühler on thought; and, in working over the introspective reports, found many that dealt with the 'feeling of ought,' which is the topic of the present paper. He classifies the data of consciousness as states and functions, and divides the states into two classes, sensitive (æstheses) and reflective (noeses). Two chapters are devoted to the problem (*Aufgabe, consigne*); the discussion of the changes of problem is the most valuable part of the study. Then follow chapters on the different modes of the 'consciousness of ought,' and on the affective coefficient of this consciousness; the work here is preliminary only. A final chapter gives brief characterisations of related consciousnesses: of will, of power, of having the right, of must.] **E. Claparède.** 'Remarques sur le contrôle des mediums à propos d'expériences avec Carancini.' [Report of sittings, which gave clear evidence of persistent fraud. Influences which may prevent an adequate control of the medium are: fatigue, distraction of attention, the difficulty of perception with the foot, illusions of interpretation in the control of the hands, forgetfulness or inaccurate memory of the situation, illusions of interpretation of touches, of localisation of sounds, of simultaneity or succession, of failure to perceive, forgetfulness of minor details of the experiment, subconscious complaisance, self-confidence.] Recueil des faits: Documents et Discussions. **E. Claparède, A. Maeder.** 'Réunions pour l'étude de la psychoanalyse.' **E. Claparède.** 'Jubilé de J. H. Fabre.' Bibliographie. Notes diverses.

Revue de Philosophie. 1er Janvier, 1911. **Editorial.** 'Ten years of existence.' [The spirit of the *Revue de Philosophie* is Peripateticism, convinced as we are that the Aristotelian and Thomist philosophical tradition constitutes the metaphysical atmosphere which is natural to the sciences of nature and the sciences of mind.] **J. Pachen.** 'Mystical Experience and Subconscious Activity.' [Can experiences, such as those which characterise St. Teresa, be explained (with M. Delacroix) by the natural workings of the subconscious, or, while admitting the subconscious or subliminal self as the theatre of such experiences, are we not rather to ascribe them to an extraordinary influx of the Divine?] **A. Gemelli.** 'The Notion of Species and Theories of Evolution.' [History of the notion of animal species from Aristotle to Darwin. Jordan's interesting discovery of multiplied permanent species of plants.] **F. Mentré.** 'Philosophic Tradition.' [Intellect not to be discarded for Emotion and

Intuition.] **J. Toulemonde.** 'Influence of the Subconscious Idea on the whole life of Man.'

ZEITSCHRIFT F. PSYCHOLOGIE. Bd. lvi., Heft 4. **K. Marbe.** 'Über das Gedankenlesen und die Gleichförmigkeit des psychischen Geschehens.' [The author found that he was usually able to guess a card that another person had chosen, by selecting the card that he himself would have chosen under the same test-conditions. The success of this egomorphic method of thought-reading suggested that the uniformity of mental process in different individuals may be greater than is commonly supposed. Group-experiments upon the choosing of cards, the writing of numbers, the naming of colours, and the writing of words gave positive results; similar instances are found in articles already published. The paper ends with a brief discussion of social suggestion, and of the part played by similarity of mental process in history (independent discoveries, amateur *vs.* professional, etc.).] **M. Beer.** 'Die Abhängigkeit der Lesezeit von psychologischen und sprachlichen Faktoren.' [All changes in rate of reading are referable to changes in the distribution of significant terms (*Sinnwerte*). These latter changes are always bound up with variation of the number of unaccented comprised between two accented syllables (increase or decrease of monosyllables, shortening or lengthening of the average number of syllables). On the other hand, so long as the distribution of significant terms is uniform, the rate of reading is constant. And this constancy is always bound up with a constancy of the number of unaccented comprised between two accented syllables, irrespective of changes in the relative frequency of monosyllables or in the average number of syllables.] **H. Berger.** 'Über die körperlichen Aeusserungen psychischer Zustände.' **E. Weber.** 'Ueber die körperlichen Aeusserungen psychischer Zustände; Entgegnung.' [Reply to criticism, and rejoinder.] Besprechung. [Guttmann on Nelson's *Ueber das sogennante Erkenntnisproblem.*] Literaturbericht.

ARCHIV F. D. GESAMTE PSYCHOLOGIE. Bd. xvi., Heft 1 und 2. **O. Selz.** 'Die psychologische Erkenntnistheorie und das Transzendenzproblem. Untersuchungen zur Entstehung des Transzendenzproblems und zur Transzendenztheorie des älteren englischen Empirismus.' [The writer first discusses the origin of the problem of transcendence. The epistemology of natural science culminated in a sharp dualism of nature and mind, internal and external world; the way was thus paved for the appearance of the problem. Psychological epistemology, by the mouth of Locke, declares that all knowledge is founded in and derived from experience. The clash of the two raises the question: By what method can we deduce, from the contents of perception, the existence of a transcendent material world, which can never be given us in experience? Locke, who is not wholly clear, evades the issue by his sensitive knowledge of particular existence; he is concerned only to head off unfruitful speculation. Berkeley, the first thinker for whom the alternative of realism or idealism is actual, uses his psychological epistemology to combat the metaphysics of science and to establish idealism. In other words, the problem of transcendence, once raised, becomes the problem of immanence. The second section of the paper comments on the factors which enter into the principle of immanence in the English school: the logical, psychologistic, idealistic and empiristic aspects of Berkeley's idealism, and the psychological, methodological and sceptical aspects of Hume's theoretical utilitarianism. A concluding section shows how the principle of immanence is superseded in Hume's theory of transcendence; the validity of our belief in an external world turns, simply, upon the

epistemological justification of the inductive method.] **C. Albrich.** 'Leibniz's Lehre vom Gefühl.' [It might seem that we should read Leibniz in vain for a psychology of feeling, since his concept of mind includes only intellect and will, and since the terms 'sensation' and 'sentiment' are identical in meaning. Yet we find a number of specific references to pleasure-pain, and it is worth while to follow them up; we note that Leibniz does not definitely distinguish between sensible pain and unpleasantness. (1) In relation to intellect, pleasure and pain appear as passions and also as elements of consciousness; they thus enter the company of sensations, and are incapable of nominal definition, though (by way of the *lex continui*) they may be genetically defined as sensations of perfection and imperfection; they have a right to existence as the attendants of intellectual phenomena, which never occur without them. (2) In relation to will, the feelings appear as the sole motives to action; they thus evince their teleological character, and are thereby set off from the phenomena of intellect. (3) Leibniz has something to say, in detail, about sensory and intellectual feelings, about the emotions, about the laws of feeling (variation of the affective tone of a perception or thought; dependence of this tone upon intensity and duration of the intellectual substrate); he localises feeling in the filaments of the pia mater and related membranes. Much of his detail is, of course, wrong or inadequate; his *lex continui* has also disappeared from psychology; but the core of the doctrine of pre-established harmony remains as psychophysical parallelism.] **F. M. Urban.** 'Die psychophysischen Massmethoden als Grundlagen empirischer Messungen.' [Deals with the treatment of the results of observation on the basis of definite assumptions regarding the psychometrical functions: continued and concluded from Bd. xv. The method of constant stimuli is the least accurate of the four psychophysical methods.] **E. Meumann.** 'Weiteres zur Frage der Sensibilität der inneren Organe und der Bedeutung der Organempfindungen; zweite Mitteilung.' [According to Ritter's observations, all the organs of the abdominal cavity are sensitive to pain, though all do not react to the same stimuli. Contrary observations, in operations on the human subject, are due, not to the suspected spread of the local anæsthetic, but to the injury done to the pain-sensitive nerves by the laparotomy itself. All contradictions in the evidence are thus reconciled.] Preisaufgabe. [Advertisement of prize offered by the *Kantgesellschaft*.] Literaturbericht. **H. Keller.** 'Sammelreferat über die Neuerscheinungen der Akustik: Fortsetzung.' Einzelbesprechungen. [Bühler on H. Maier, Psychologie des emotionalen Denkens; Schanoff on Mercante, Enseñanza de la Aritmética.] Referate. **J. Pikler.** 'Schlusswort über Dr. L. v. Renaulds Kritik meiner Lipps-Kritik.' **L. v. Renauld.** 'Endgültiges Schlusswort gegen Pikler.'—Bd. xvi., Heft 2 und 3. **B. Kerstiens.** 'Untersuchungen zur Seelenlehre des Descartes.' [Seeks to prove that, if context and relative emphasis are taken into account, Descartes' doctrine is far more consistent than critics have admitted. The soul is identified with conscious thought; and the essence of the soul is intellectualistically conceived (*geistig*). The constitution of thought is twofold; there are two powers of the soul, cognition (passive) and volition (active). The soul is unitary; these powers are only two forms of the same thing; and it is also substantial; Descartes is far from parallelism. That the soul is immortal, he does not expressly say, though he is evidently convinced that it is not destroyed. The will is free, in the sense of a complete indeterminism; but this freedom is compatible with the *concursus Dei*; Descartes was quite unconscious that the two positions might be taken as contradictory. As regards judgment, we find apparently conflicting statements: that judgment is an act of will,

that we cannot refuse to accept what we have clearly cognised, and that both understanding and will are concerned in judgment: the conflict is resolved, however, if we recognise that the force of conviction is moral and not absolute, and that, apart from this, the will is able in its own right to suspend judgment. The will may be influenced by the passions; but, if it exerts its power, can always conquer them. The feelings (which Descartes does not attempt strictly to define) are, like the passions, part intellect and part will: with the difference, however, that the intellectual element is the stronger. Feeling is not a third power of the soul, though the sources of the later tripartite classification may be found in Descartes.] **Z. Treves.** 'Beobachtungen über den Muskelsinn bei Blinden.' [The author maintains, as against Heller, that the kinæsthetic sensations involved in movement may furnish the blind with adequate ideas of space, as regards both direction and extent, and can therefore serve as the basis of an intelligent expression of spatial ideas in the terms employed by normal individuals. Experiment shows, for instance, that the blind recognise a straight path as straight, when the hand is moved passively along it, whatever may be the direction of the path in reference to the body; and that they are able, in the same way, to discriminate between rectilineal and curved paths. It accordingly seems worth while to undertake a special education of the 'muscle sense' in blind children: and the writer reports (with tables and diagrams of results) the beginnings of such a course of education, in the case of children from five to sixteen years of age.] **M. Ponzo.** 'Intorno ad alcune illusioni nel campo delle sensazioni tattili, sull' illusione di Aristotele e fenomeni analoghi.' **F. Kiesow.** 'Kurze Zusammenstellung des Inhalts der vorstehenden Arbeit.' [If a part of the body (finger, shell of the ear) is placed in an abnormal position, and stimulated by pressure, the sensation is localised as it would have been under normal conditions. The author brings this result into connexion with Aristotle's illusion, which he discusses in detail, adding experiments upon the confusion of the crossed fingers in the localisation of pressures, and upon the inversion of the original illusion (two objects perceived as one). He then shows that an abnormal position of a part of the body may condition illusions as to the form of the stimulating object; the key, throughout, is the observer's reference to the normal position. Finally, he points out that if two parts of the body, of whose position we normally possess differently clear ideas, are brought into abnormal contact, the less clear idea of position is modified by the more clear.] **F. Kiesow.** 'Beobachtungen über die Reaktionszeiten momentaner Schalleindrücke'. [Reports of auditory reaction experiments, (1) in which the observer was under no instruction as to direction of attention (3 observers, of sensory, muscular, and mixed type, respectively; 2 intensities of stimulus), and (2) in which the direction of attention was prescribed (one observer; sensory, muscular and indifferent reactions; sensory reactions with all fingers of the two hands; sensory reactions without ready-signal; 3 intensities of stimulus). Among other results, confirmation of Wundt's law, that the length of reaction-time quickly decreases as the stimulus rises from liminal intensity, and remains approximately constant when a certain degree of intensity has been reached.] **F. Kiesow und M. Ponzo.** 'Beobachtungen über die Reaktionszeiten der Temperaturempfindungen.' [Experiments, by an improved apparatus, upon temperature spots or small groups of spots, with elimination of pressure. Natural reactions (one observer, mixed type) gave 193° for cold and 207° for warmth. Sensory times (two observers) were about 230° and 255°; muscular times (same observers), about 143° and 150°, for cold and warmth respectively. The temperatures employed were 0° and 48-49° C.] **E. Becher.** 'Über umkehrbare

Zeichnungen.' [Experiments with perspective figures (white on black in dark room; tachistoscopic exposure) show that Wundt's rule of direction and movement of regard, while its correctness is in most cases confirmed, is not the sole rule of interpretation, and in fact is oftentimes broken; and show, further, that explanation cannot be sought solely in the facts of direction and distribution of attention. What we see depends also upon our predisposition, upon the 'readiness' of the reproductive elements that transform the plane figure into a perception of solidity; the readiness does not necessarily imply the appearance of a tridimensional figure in consciousness. In a word, the specific character of the illusion is the resultant of a very large number of co-operating influences, no one of which can be given a predominant place in theory.] **H. D. Cook.** 'Die taktile Schätzung von ausgefüllten und leeren Strecken.' [The comparison of filled and empty tactual distances depends, in large measure, upon the distribution of attention and upon the observer's method of apprehension and judgment; every mode of presentation of the stimuli—with active or passive movement, with simultaneous or successive stimulation of the resting skin—tends to educe its own typical reaction, and therefore to condition its own special form of illusion. Analysis reveals the following factors as influential in judgment: a direct tactual impression of continuous extent, the absolute impression of largeness or smallness of the variable stimulus, localisation of the limiting points of the distance, the qualitative character of the terminal sensations, relative intensity of the total pressure; visual ideas and peripheral irradiations are unimportant; distribution of attention is of extreme importance. The writer posits, as so far unanalysable, the impression of continuous extension, mentioned above, and a local sign (von Frey's *Merkzeichen*) of pressure-sensations. Analogies are found with Benussi's distinction of synthetic and analytical apprehension, and more especially with Schumann's discovery of the effect of distribution of attention, in the case of optical illusions; but the author does not press them, believing rather that the spatial illusions in general demand various and particular interpretation.] **A. Mueller.** 'Einige Bemerkungen über die Täuschung am Himmelsgewölbe und an den Gestirnen.' [Critique of work by Pozdena, published in *Zeits. f. Psychol.*, li. Pozdena's principle that the moon (or other heavenly body) may be identified, as regards our visual perception, with a portion of the area of the vault of the sky, is neither proved nor free from objection. The writer believes that we must have exact measurements of the facts of illusion, both for the vault of the sky and for the heavenly bodies, and an exact determination of the separate influence of the various causes of illusion; observatories and psychological laboratories should here co-operate.] **E. Meumann.** 'Mitteilung.' Literaturbericht. Einzelbesprechung. [Oesterreich on Dessoir's *Das Unterbewusstsein.*] Referate. **D. Katz** und **G. Révész.** 'Über das Referat unserer Arbeit: Experimentall-psychologische Untersuchungen mit Hühnern.' **S. Berger.** 'Zur Erwiderung gegen die Herren Katz und Révész.'

ZEITSCHRIFT FÜR PHILOSOPHIE UND PHILOSOPHISCHE KRITIK. Bd. cxl., Heft 1, 1910. **Elizabeth Schmitt.** 'Die unendlichen Modi bei Spinoza.' **Benno Urbach.** 'Über das Wesen der logischen Paradoxa.' **Josef Müller.** 'Jean Paul und Jacobi.' Selbstanzeigen, etc.—Bd. cxli., Heft 1, 1910. **Wilhelm Brönner.** 'Zur Theorie der kollektiv-psychischen Erscheinungen.' **Franz Lüdtke.** 'Kritische Geschichte der Appercepzionsbegriffe.' Rezensionen, etc.

Rivista di Filosofia. Anno ii., Fasc. 3, June-July, 1910. **Roberto Ardigò.** 'I presupposti Massimi Problemi.' [The neo-mysticism of the present day is responsible for the assumption that philosophy has for its principal function to reconcile the old theological beliefs with the results of modern science and modern thought. But as, according to Ardigò, the beliefs in question are entirely obsolete the supposed necessity of reconciling them with positive knowledge is imaginary, and the problems resulting from it are insoluble.] **Antioco Zucca.** 'Il grande enigma.' [Beginning with the care for one's own personal preservation and aggrandisement, our interest in life gradually transforms itself into devotion to family and friends, to the service of the State, and to the welfare of all mankind. But the attainment, actual or prospective, of every limited ideal leaves behind it a feeling of dissatisfaction and unrest. For not only the individual but the State and humanity are doomed to ultimate extinction. It is therefore necessary to assume, as a postulate of sustaining faith, not only that the universe is infinite and everlasting but also that it is always and everywhere realised as so existing by the evolution in all worlds of living sensitive and rational beings like ourselves.] **Guido De Ruggiero.** 'Il nuovo Spiritualismo francese.' [As a sequel to his paper on French Eclecticism in the preceding number the writer discusses with equal severity the more or less mystical philosophies of Ravaisson, Vacherot, Janet, and Fouillée.] **Kuno Schalk.** 'Gli elementi di una nuova psicologia del vero.' ['Truth is good in so far as it is true, not true in so far as it is good.' But Schalk fails to provide us with a working rule for the discrimination of truth from error. For we can hardly regard as such his requirement that the believer shall be sincere, and that every new belief shall be more comprehensive than the old belief to which it succeeds.] **B. Varisco.** 'Cognizioni e convenzioni.' [The most certain of our cognitions, including the truths of mathematics, are based on postulates the certainty of which is merely a matter of agreement. But this principle is not itself a matter of convention; it is absolutely true. More generally, the cognitive process is itself cognised; and 'the reason that is an element in myself must be immanent in reality because the laws I derive from it are valid for reality'.] **Evaristo Marsili.** 'Considerazioni critiche sulla educazione dei sensi.' [The power of the senses cannot really be increased; and what goes by the name of their education in infant schools is, properly speaking, rather a training of the intelligence under the forms of observation, attention, judgment, etc. Wrongly applied it may even impair the innate powers of sense.] Bibliografia, Recensioni, etc.—Anno ii., Fasc. 4, August-October, 1910. **Roberto Ardigò.** 'Il positivismo nelle scienze esatte, e nelle sperimentali.' [A difficult study, having apparently for its object to prove that the derivation of geometrical principles from experience through the senses is consistent with the utmost precision and truth in the concepts and propositions of geometry. Ardigò seems to think that the possibility of non-Euclidean space can be philosophically proved.] **Pasquale d'Hercole.** 'La Reintegrazione della Facultà teologica.' [Pleads for the rehabilitation of theological studies in the Italian Universities on undogmatic lines, as the science of Comparative Religion and religious history.] **Salvatore Minocchi.** 'Religione e Filosofia.' [The distinguished Modernist thinker conceives religion as morality raised to its highest power by the identification of matter with spirit, God with the world, the life of the individual with the life of universal Nature.] **E. Juvalta.** 'Postulati etici e postulati metafisici.' [There can be no genuine ethics the principles of which are not independent of metaphysics; but ethical

truth may be explained and corroborated by metaphysical principles.] **Giovanni Calò.** 'Le ragioni dello spiritualismo.' [Materialism cannot explain the fact of self-consciousness, from which logically follows the substantiality of mind, the reality of the objective world, then God, freewill, virtue, and immortality.] **E. Troilo.** 'Bernardino Telesio.' [An interesting sketch of a great and attractive figure in the history of Renaissance philosophy.] **F. Iodl.** 'Libertà di scienza e di coscienza.' [A translation of an article by the Viennese professor, maintaining, against Luzzatti that freedom of thought has been won not by religion but by science and philosophy.] **Luigi Luzzatti.** 'I martiri nella Storia del pensiero.' [Whatever Benedetto Croce may say to the contrary, even from a purely historical point of view it must be admitted that the martyrs of all ages have been intrinsically superior to their persecutors.] **B. Varisco.** 'Realità e cognizioni.' [Reviewing Prof. Bonucci's work on Truth and Reality—which by the way the critic describes as largely inspired by Mr. Bradley—Varisco concludes, against Absolutism, that the subject of knowledge, *i.e.* the ego, possesses an essential individuality which can neither be identified with anything else nor dissolved in the Whole.] Bibliografia, etc.—Anno ii., Fasc. 5, November-December, 1910. **Roberto Ardigò.** 'L'Individuo.' [Individualism is a purely relative idea. However far our analysis of the external world may be carried it never brings us to real indivisible monads. And in the highest organisms we are not entitled to assume any transcendental principle of unity outside and above the convergent activities of the elements composing them.] **B. Varisco.** 'Conosci te Stesso.' [Science deals with the facts and laws of the external world, philosophy with the mental processes by which the worlds of outward perception and inner consciousness become known to us. That the external world should only be known to us through its reproduction in our minds does not involve agnosticism. For there is no reason to believe that anything exists beyond what is perceived and thought.] **Annibale Pastore.** 'Il valore teoretico della logica.' [Hegel was right in identifying the world with a process of thought. But his method involved him in serious scientific errors which we may avoid by interpreting the immanent logic of Nature as a pure formal logic.] **Giovanni Marchesini.** 'I metodi critici di G. Gentile.' [An unsparing reply to what the writer represents as an unjustifiably brutal attack on his master, Ardigò.] Bibliografia filosofica italiana, recensioni, etc.

X.—NOTE.

MIND ASSOCIATION.

THE Annual General Meeting of the MIND Association will be held in Corpus Christi College, Oxford, on Saturday, 10th June, 1911, at 4.30 P.M. A paper may be given in the evening.

Those who wish to join the Association should communicate with the Hon. Secretary, Mr. HENRY STURT, 5 Park Terrace, Oxford; or with the Hon. Treasurer, Dr. F. C. S. SCHILLER, Corpus Christi College, Oxford, to whom the yearly subscription of one guinea should be paid.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—ON SOME ASPECTS OF TRUTH.

By F. H. Bradley.

I must begin this article by once more asking for the indulgence of the reader. Once again I am writing on a theme where I doubt if I have anything really new to offer. My excuse is that there are some questions on which, even at the cost of repetition, I desire to be explicit. And these questions are so difficult and so important, that the reader, if led to dwell on them, may, I hope, be too much occupied to ask after novelty. "When I think truly, can I think that which has never been so thought before?" and "Can I in any sense make truth?"—these were the two problems which I wished specially to notice. And I have thought it better to take these problems more or less in connexion with some other enquiries.

In any discussion about truth I am met by what to myself is a great difficulty. It is impossible, in my opinion, to deal with truth apart from an examination of the nature of reality. Not merely has every one (though perhaps only at the back of his mind) a view as to reality which is sure to affect his result. The very questions as to truth with which a man begins, involve in the end an answer to certain questions about the nature of things. And to deal with these final inquiries here is obviously not possible. Hence I am forced to refer the reader to that which I have published elsewhere. In what follows I am in the main confined to showing how various problems are dealt with, supposing that you adopt a certain view as to the Universe. If the reader insists on asking throughout for more, I can only reply that here I am writing for others.

I will however begin by noticing some misunderstandings as to the method employed in ultimate inquiry by writers like myself. There is an idea that we start, consciously or unconsciously, with certain axioms, and from these reason downwards. This idea to my mind is baseless. The method actually followed may be called in the main the procedure used by Hegel, that of a direct ideal experiment made on reality. What is assumed is that I have to satisfy my theoretical want, or, in other words, that I resolve to think. And it is assumed that, if my thought is satisfied with itself, I have, with this, truth and reality. But as to what will satisfy I have of course no knowledge in advance. My object is to get before me what will content a certain felt need, but the way and the means are to be discovered only by trial and rejection. The method clearly is experimental.

Speaking from this point forwards simply for myself, I find an object which is plural. I do not of course mean that it is only plural, but I mean that it has maniness. Now how am I to take this object ideally so as to satisfy my mind? If I try to take the object as merely many, it is forthwith dissipated and is lost. Therefore the object is not a mere many. Let me now, starting from this result, try to take the object as a mere conjunction of terms and external relations. The aspect here, other than the mere many, will be a bare "together" or "and". But I want to see what this aspect is. I take it first as adding to the many only another one, a something more of them. And, as soon as I do this, the object once more is dissipated, and the whole conjunction disappears. Therefore the "together" or "and" does *not* consist in terms and external relations. It is something else. It may perhaps be called a form of unity and totality.[1] I take the plural object as many in one, and with that so far I am satisfied. But on this naturally succeeds further inquiry and further trial, not going backwards but endeavouring to advance and to specify the How. And where the alleged downward deduction from axioms comes in here, I am myself unable to discover.

As to what has been called the axiom of internal relations, I can only repeat that "internal" relations, though truer by far than "external," are, in my opinion, not true in the end. You have no alternatives here by denying one of which you can go on to assert the other, for truth in the end is not merely relational. And the alleged axiom is a comparative truth which is not a premiss but a result. The same remark

[1] On the nature of "and" see MIND, No. 72, p. 497.

applies to any "axiom of ground". Where A is not real by itself but implies and belongs to an ideal whole, you want a reason for A, for you want to know the How of this unity. Mediation is called for, and, if external merely, is none. But the "axiom," once more here, is a result and not a premiss.

I will venture to enlarge on this second supposed axiom. Is it true that everything must have a reason, a "how" and a "why"? In the end this assertion is not true, we see at once, of the Universe. The "axiom" holds only so far as a thing is not complete in itself, and is therefore, on our view, ideally beyond itself. The demand for the making good of such imperfection, not as real but as ideal, the completion of the thing in idea so as to satisfy us theoretically, is what we mean by the search for a "why" and "how". Wherever, in other words, you have an "implication," you want a reason, because you desire to see the whole nature of your implication.

Where you have a felt whole, as felt, where you have a non-relational unity, as in a work of art, there, so far, you need not ask "why". The tendency of the content to pass beyond the limits of the thing is not always forced on your notice. The case is different where, by analysis or otherwise, the self-contained unity has been lost. Wherever the oneness of "what" and "that" has perished before us, or has been destroyed by reflection and analysis, and wherever we seek to reunite these aspects not really but ideally, we have a demand for a "reason".

Every felt whole changes in time, and the felt "present" has narrow limits. We are left, when we notice this, with two things, a felt present and a recalled past; and these two things come to us somehow together. But are the two felt or perceived as one in the sense that their contents are throughout in immediate unity? Clearly not so, and hence the "somehow," as it is, does not satisfy us. It is the name of something which, for us, is not all there, and is not actually contained in our fact. And we want the whole of the "somehow" actually and in detail. Such a complete totality we cannot directly experience, so as to have once more something which is or seems to be self-sufficient. We therefore attempt to supply this defect by ideas. We seek to understand, to make good ideally our lost unity.

Passing by the question raised by space, let us go on also to ignore change in time. Let us take some sensible whole, or other non-relational unity; let us suppose that this does not change in time, and let us, for the sake of argument, assume also that within this, as it comes to you, there is no tendency

of the content to pass beyond the limits of the thing. Here so far, it will be said, there is no "why" or "how". I agree, but I ask whether you intend to remain here. And that, as I observe, is precisely what you do *not* intend to do. You go on to think, you analyse, you introduce terms and relations, whereas in your immediate whole there were no relations or terms; or, at least and in any case, the whole itself was non-relational. And, so far as you have terms and relations, the unity is destroyed. It now, as the fact of "relatedness," falls outside of the relational scheme, and this fact you have not specified. The attempt to specify this fact, to re-include it not really but ideally, and so to make good the broken unity, is the demand and the search for the "how" and the "why". We wish in other words to perceive the full nature of the "and," or the "implication". We desire in short to understand.

To ask us here why we cannot remain content with "the brute fact," seems even ridiculous. What is the brute fact? Is it the fact as merely felt? Is it an immediate unity taken non-relationally and so not understood? On the contrary your "brute fact" is that ideal scheme of terms and relations which comes into being only through the destruction of the felt whole. Such a fact is not brute, but is ideal. It is a thing, which, as itself, is only for thought. And it itself is not a fact. It has no unity except that which is added from outside itself, and is supplied irrationally from elsewhere. Your ultimate brute fact is in brief your own half-thought-out theory.

We have now seen the nature of the demand for a reason, a "how" and a "why". We have here no axiom standing on which we proceed to argue downwards. So far as this truth is true, it is a result and a character of our procedure itself.

Passing now from this misunderstanding about axioms, I will venture (if the reader will pardon this repetition) to try to throw some further light on the general method which I have used. In theorising we put questions directly to Reality. In other words we experiment ideally on the nature of things. We find that, given *a*, we have *b*, and that this is how the world behaves.[1] The objection that in this way we learn nothing about Reality itself, is ill-founded. It depends on a false separation between Reality and ourselves, and it may therefore be dismissed. Reality is such that *a* is *b*. All

[1] *Cf. Principles of Logic*, p. 87.

our truths are true of Reality, but all are subject to a condition. We can say indifferently "*a* (*x*) *b* is real," or "Reality is *a* (*x*) *b* ". Such is the doctrine of judgment which I have found to be the one doctrine which holds.

But obviously with an unknown condition we are but partly satisfied. To pass from one term to another term, we do not know how, is not enough. We have to seek knowledge where the mode of transition, the mediation itself, also is known. And, even if we had various pieces of knowledge which held good, each in itself, that would still fail to satisfy us, as long as we are ignorant as to the connexion of these pieces. For some connexion there is. If we had no "and" or "together," we should not even have pieces, and "together" or "and," as we have seen, is an expression of unity and totality. It asserts a whole, but it couples this assertion with blank ignorance as to "how". And such ignorance does not content us. We are led, therefore, to search for the reason why we pass from one term to another term. We seek in other words a mediated intelligible whole. That whole, if we could reach it, would fulfil our theoretical want. That would be true and real; and reality and truth, we have to assume, is that. But whether we can say "*merely* that," is of course a further question.

The reader may object that, even if the above, so far as it goes, is admitted, it still is useless. It tells us nothing as to the world, since all it tells us is formal. The word "formal" I put on one side as a probable source of misapprehension. But I fully agree that all the knowledge we have reached so far about reality, is too general and empty. To the question "What do I know?" the above is an answer which by itself does not satisfy. And not only do I hold this, but I have urged also that by itself no such knowledge could even exist. For the whole of our knowledge may be said to depend upon immediate experience. At bottom the Real is what we feel, and there is no reality outside of feeling. And in the end the Reality (whatever else we say of it) is experience.

Our fundamental fact is immediate experience or feeling.[1] We have here a many in one where, so far, there is no distinction between truth and fact. And feeling again is mine, though of course it is not merely my feeling. It is reality and myself in unbroken unity. We in a sense transcend this unity, that is clear, for we could not otherwise speak of it. But that we should ever in any way reach a reality out-

[1] See especially MIND, No. 69.

side of it, seems impossible. And if this is so, as I have contended more fully elsewhere, then experience is reality. For in attempting to deny this thesis, or to assert something else, we find on experiment that we have asserted this thesis or nothing.[1]

If then Reality is an intelligible whole and Reality also is experience, can we assume that, above relations and inclusive of them, there is an Experience which reasserts our original unity? If this is possible, our theoretical want would be satisfied. Such a whole would be Reality, and nothing else could in the end be called even possible. There is of course no question here of explaining everything. Such an idea, at least to my mind, is ridiculous, not to say insane. The real question everywhere as to the inexplicable is whether it falls within the general view, or whether, falling outside that, it becomes a negative instance. In the latter case, and in the latter case only, the general view is refuted. But into the discussion of such alleged instances there is no space to enter here.[2]

My object in the above has not been to indulge in idle repetition, nor again to argue that the conclusions which I hold are not refutable. What I have been aiming at is to help the reader to understand how it is that such conclusions as mine are reached, in what way, that is, and by what method, starting from what is given, we arrive at our goal. I wish finally to point to a merit possessed, I think, by no view which is not akin to my own. In philosophy it is not enough merely to state the connexion between truth and reality. One is bound to show in addition how, this connexion being so, we can know that it is so, how in short our knowledge is such that it can comprehend itself and reality. I will not repeat here how, on the view which I hold, this vital question is answered. What I wish to urge is this, that on no opposite view (so far as I see) can the question

[1] We have here a matter for observation and experiment and not for long trains of reasoning. In MIND, No. 75, p. 335, I notice, for instance, that Prof. Perry, while uprooting Idealism, demolishes in passing myself. He takes me to argue to a conclusion which I do not hold, from a basis which I have rejected as an error, and then wonders at the unnameable vice of the process. But, if Prof. Perry wishes to get an idea as to the view which he is anxious to refute, why should he not suppose (for a moment) that on my side there is no argument at all, and that on his side there is an inference by way of vicious abstraction?

[2] Any critic who desires to be fair, should, I think, make up his mind on these two questions, (*a*) Has or has not a philosophy got to explain everything? (*b*) What is it (if anything) that a philosophy may leave unexplained? Without some consideration of these points I do not myself see how rational discussion is possible.

be answered at all. The problem of the ultimate Criterion must be faced, and on any other basis it cannot, I think, be fairly encountered and solved. I will now point out this failure in the case of two widely held doctrines.

The theoretical criterion, for myself, is in theory supreme. The truth for any man is that which at the time satisfies his theoretical want, and "more or less true" means more or less of such satisfaction. The want is a special one. We do not of course know beforehand what it is and what can satisfy it. We only at first feel that there is something special, that we miss or gain, and we go on to discover the nature of the want and its object by trial, failure and success. I will now proceed to ask what will happen if we take the Criterion to lie in satisfaction not specific but general. The necessary result to my mind is failure and bankruptcy.[1]

We must not confuse this position with that taken in ordinary Hedonism. The Hedonist, as such, has no doctrine of his own about truth. The means to the one Desirable are sought by the intellect, but, as to the nature of the intellect and of truth and fact, almost any view can be joined with Hedonism. But in the position to be now examined the ground is changed. Satisfaction has itself become the criterion of truth. And this satisfaction we are not to understand in any narrowed sense. It is not to be merely hedonic, nor is it to be merely practical as belonging to what we do, as against what we feel and are. Satisfaction in general is to be our criterion of truth and error.

There is a mental attitude from which the above must again be distinguished. We may, despairing for ourselves or in general, of ultimate truth, or finding the quest of it too costly, resolve to abandon it. The satisfaction of our human interests, truth included, is our end; and we decide for ourselves to limit truth to those ideas which subserve our interests so far as they subserve them. Truths are to be working ideas. And if we really understand our present position (as we seldom do), any ideas, no matter how inconsistent, are to be counted true, if and so far as they are required in our spiritual interest. What we feel to be the general health and harmony of our being is the end, and truth is to be subject absolutely to dictation from that. But within these limits we, like the common Hedonist, use the everyday notion of truth, and confine it to the search for that

[1] What follows may be taken as a commentary on *Appearance*, pp. 373-374.

which, in the above sense, works. I myself have much sympathy with the above attitude which of course, in theory, is not mine.[1] But we must remember that this attitude is not a doctrine about truth and the criterion, and, if it understands itself, it makes no pretence to the name of philosophy. And, keeping this in mind, we may pass onwards.

The position which we are to examine claims to be a philosophy and to offer an account of truth which is valid. Its criterion, we have seen, is satisfaction not one-sided but general. As to how on this view we are to know what is one-sided or general, a doubt might be raised. But, leaving this, we are face to face with a serious difficulty. Is the general satisfaction to be that of my own self or of others, or again of both at once? And who are others? Let us decide to mean by others the present and future inhabitants of this our planet, so far as they are known, and, if you please, let us consider only those inhabitants which are human. But in any case my satisfaction and that of others seems able to collide. Are we to assume that really this is not so, or are we on the other hand to subordinate my satisfaction to that of others, or that of others to my own? Whatever attitude we adopt, our procedure seems irrational and arbitrary, and we shall hardly save ourselves by trying to take all three positions at once, or as each serves the turn. But our theory, if so, has been shaken by the first simple question.

It is better however to examine it further. The general satisfaction includes the future and is not merely present. Let us call it satisfaction in the long run for myself or for humanity. And "in the long run" does not mean what "will be" in an ordinary realistic sense. For that sense is excluded by our doctrine of truth. What "will be" is that which satisfies now as *tending* to satisfy in the long run. Whatever idea of means to our end satisfies most *now*, is the truth.

And "satisfies" does not point solely or specially to *theoretical* satisfaction. That would be a return to the view of truth which has been abandoned definitely. Then satisfies (we must at once proceed to ask) *whom* and *how?* It cannot be my future self, or humanity in the future, which has to be satisfied, for these surely are inaccessible. The satisfaction clearly must be present. And the present satisfaction of humanity once more cannot be reached. For this is known, I presume, only by an inference, and an inference on our present view of truth must rest on actual satisfaction. Thus actual satisfaction in the end must be now and be *mine*.

[1] *Cf.* MIND, No. 66, p. 230.

Truth is the idea which satisfies me now. Then in what way? Not theoretically, for to say that would be to relapse into a discarded attitude. You may say "It satisfies me most now to adopt and act on a certain view as to the probable future. This view rests on my present satisfaction and hence all is consistent." But no such defence is really valid. For it is an obvious fact that (not to speak of other persons) to adopt and to act on other views sometimes satisfies me as much or more. If we admit this fact, then all these opposite views will be equally true. And we can only deny the fact by a collision with everything like common experience and common sense. To identify my satisfaction now with a certain view and a certain object which I take as real, with an ideal construction capable of appearance at other moments and in other persons, would be to make the criterion theoretical. And on our present theory there is no essential connexion between the satisfaction and any special quality in the object. The idea therefore, whatever it is, which satisfies me most now, is true. The truth is whatever idea at this moment is felt to satisfy me most, and, beside this, there is no other truth.

Theoretical satisfaction may be rejected (and this is the better course) as not existing or as subordinate. Or it may be admitted as one element in the satisfaction which is general. This admission leads inevitably to a collision between the truth which is theoretical and the truth which is true. And there would be no principle on which to decide between these conflicting claims. The only criterion left in any case is the feeling which at the moment prevails. Truth is nothing but whatever idea I feel at a given moment to give most satisfaction. And with this I submit that we have ended in bankruptcy.

I will pass on from this to say something on the doctrine called Darwinism, so far as it bears on the question of the criterion. We have here at first sight the antipodes of our former view. That stood on satisfaction, while for Darwinism there is nothing in the world like value or good or evil. Anything implying evolution, in the ordinary sense of development or progress, is wholly rejected. But the two views meet positively so far as there is coincidence between that which prevails and that which satisfies. And negatively they meet in their exclusion from the criterion of anything like a special quality, type or character, as essential to the object. Whatever idea satisfies or prevails (no matter what else it is) is true.

Darwinism often recommends itself because confused with a doctrine of evolution which is different radically. Humanity is here taken as a real being, or even the one real being, and Humanity advances continuously. Its history is development and progress to a goal, because the type and character in which its reality consists is gradually brought more and more into fact. That which is strongest on the whole must therefore be good, and the ideas which come to prevail must therefore be true. This doctrine, which possesses my sympathy, though I certainly cannot accept it, has, I suppose, now for a century taken its place in the thought of Europe. For good or for evil it more or less dominates or sways our minds to an extent of which most of us, perhaps, are dangerously unaware.

Any such view of course conflicts radically with Darwinism, and let us now ask how the latter can deal with our inquiry as to truth. The ideas (it may explain) by which our world, and our human world, has got on so far, are called true. There is some probability, though we cannot estimate the balance, that by using the same ideas we shall continue to get on in the same direction. Therefore (*a*) truth is merely the ideas by which we get on, or (*b*) at any rate these are the ideas to which we should confine our attention.

(*a*) The first conclusion is suicidal, since it contradicts its basis.[1] Its basis obviously is positive doctrine, right or wrong, which assumes and rests on the validity of theoretical truth in the sense which Darwinism denies. (*b*) The second conclusion, if, that is, it admits truth in the ordinary sense with regard to human history, is so far consistent. But, so far as Darwinism has anything to say, this conclusion seems arbitrary or worse. For the word "should" falls outside of Darwinism, just as to "get on" means nothing if it means more than to "go back". And the historical assertion that only ideas of "getting on" have so far worked, is clearly untenable.

For Darwinism the true idea is the idea which prevails, and we may perhaps identify satisfaction with inward prevalence. Then the question, which at once arises, is "prevails where and when?" As to the "how" we need not ask because we know that "how" means "anyhow". If the where and when are taken as in our world in general, then (as we saw before) such knowledge on our part must rest on the very theoretical truth which we deny. But, if the prevalence is in myself, and in myself here and now, then any idea,

[1] *Cf. Appearance*, p. 137.

no matter what, if it prevails, is true, and all such ideas are true alike. There is no criterion, and from this result we cannot escape by refinements. The argument that Darwinism's idea of prevalence prevails in me here and now, and so proves itself by a circular reinforcement, will not stand scrutiny. For all that we have here is the moment's coincidence, unessential and external, and any of the other ideas which elsewhere or at another time prevail, are as unquestionably true. A contention like the above is good only if the other, the incompatible, doctrine of development is accepted. And it rests probably, wherever it is used, on some reminiscence or result of this other doctrine. The one criterion for Darwinism is the abstract success or prevalence of whatever happens to prevail, without any regard for its character. And this must surely leave us in the end with no criterion at all.

It may however repay us, before we go further, rapidly to view this matter from the other side. To maintain that Reality or Truth is what prevails, or is that which satisfies us, is not wrong. And similarly it is not wrong to affirm that Reality is "this," "now" or "mine". The mistake here, so far as there is a mistake, lies in our simple identification of both terms, and in our addition of the word "only". Any positive attribution, in other words, to Reality must be right, so long as it abstains from the denial, implicit or explicit, of "something more". To say "only" is to lay emphasis on the negative side of the positive identity. "Only" or "merely" excludes any "other," or again it may warn us against making an abortive attempt to find an "other" where any other is meaningless. Hence such an assertion as that Reality is merely prevalence, is, on our view, inconsistent with itself. Since an other than mere prevalence has, on that view, a meaning, we have set up within Reality the distinction of R (*a*) and R (*b*). This distinction however must imply a higher and more inclusive R within which it falls, and the exclusive identification asserted by our "merely" is thus in contradiction with itself.

Even the judgments that Reality is one in many and is experience, would be untenable, if we meant by these judgments to deny that Reality is in any sense more. But no such denial should be the intention of our judgment. What we really exclude here as senseless is the idea of any "other" falling outside of our predicate, and able to be set over against it in idea as being itself also an attribute of the Real. And we deny no qualification of our predicate which, re-

maining still under it, fills out its character merely from the inside. But how a truth, claiming to reach reality, should at once be absolute and yet for ever consciously incomplete, I have elsewhere discussed.[1]

I will now proceed to deal with a number of special questions as to truth. Any knowledge which on my view can in a proper sense be called truth, is the qualification of Reality by ideal content. The Real must here have the form of an object, and the idea must in some sense have an existence other than that of the object. With these points I have dealt fully elsewhere, and I propose to go on here to ask first as to the meaning of qualification. That meaning is derived from immediate experience and sensible perception. If you take, for instance, an object such as an apple, this is qualified by its adjectives. It is each and all of them, and yet it is something more, though you are unable to say what. It is different from its qualities, and it is also the same and one with them. This is the idea of qualification which we apply to judgment. It is an imperfect idea obviously, and it is not "thinkable" or "intelligible" if that means that you can analyse it without destruction into terms and relations. But it has a positive sense which, however inconsistently, you use. And, because this sense is not "intelligible," there is a constant tendency to deny or to destroy it. You may seek for the essence of qualification in an arrangement of relations and terms, or in a simple identity; and in either case what you will find is anatomised death or vacuity. Or again, shrinking from these, you may still deny that anything other than these is there. But the positive meaning exists, and, with all its imperfection, it is applied in truth. On the nature and the result of this imperfection I have written elsewhere.

From this I go on to approach another question at once important and full of difficulty. Does truth always refer to something other than itself? And, if this is always the case, in what sense are we able to affirm it? As to what is the obvious view, there is no doubt. Truth, to be true, must be true of something, and this something itself is not truth. This obvious view I endorse, but to ascertain its proper meaning is not easy. And it commonly is misinterpreted so as not to be tenable. I will begin the discussion by the statement of what is called an antinomy.

[1] See *Appearance*, chap. xxvii.

(i) No judgment is self-contained. For (*a*) on *my* side there is always something which does not qualify the object, and which therefore falls outside. There is always my psychical state of the moment, a context in which the assertion happens and which it has to transcend. So far, for example, as my judgment pleases and satisfies, that feeling, where we are confined to truth, does not qualify the object. And, again, I may be aware of an act which proceeds in and from me with more or less of difficulty or ease, and either faster or more slowly. But this difference is irrelevant to the judgment. And (*b*), on the side of the object, Reality is never confined in and limited to my special object, but is always also beyond it.[1]

(ii) No judgment is self-transcendent. For (*a*) it refers to and qualifies something real. But how it could qualify something which is not there for me and present, or how this something could be present and yet not within the judgment, seems not intelligible. Or rather we see that, when we attempt such assertions, we have really implied the opposite. And (*b*) that activity which seemed to lie merely in myself, is not external to the object. To take the felt activity as falling wholly in or on something outside the judgment, is not a tenable view. We cannot regard the act as expended merely by myself on myself, nor does it move or hang somewhere between myself and the object. And, asking in general for the sense of this "between," we find that we have nothing beyond a self-inconsistent metaphor. Judgment cannot consist in the external relation of two independent things, nor is it the presence (one-sided or otherwise) of one merely to the other.[2] If you imagine two foreign bodies, one impressing or soliciting the other, and the second body attempting to grasp the first which has impressed or excited it—you have passed away from an actual judgment. For somehow undeniably there is an awareness of that whole judgment as one, and we belie that fact when we take its felt activity and its entire psychical existence as falling somewhere apart from it. The act of judgment itself must belong also to the object and itself make an element in the judgment.

A dilemma such as the above is insoluble so long as we remain on the ground which supports it. The notion of myself as a thing standing over against the world, externally related to it in knowledge, and dividing with it some-

[1] Even where Reality or the Universe is the subject, this still will hold good. See MIND, No. 60, p. 455.

[2] What some one should explain is how the merely external relation of two terms is able to be aware of itself.

how unintelligibly the joint situation or result, must once for all be abandoned. This point of view rests on the ideal construction which we call the soul or the mind, and it assumes this construction to be an absolute fact. But, as I have argued elsewhere,[1] such a position is untenable. To take my self or soul as a separate thing, and to regard everything that happens to it as its psychical states, is, in its own place, proper and necessary. For certain purposes we are right, and we are even compelled, to adopt such an attitude. And not to realise this necessity is to fall into dangerous error. On the other side to rest in this position as ultimate, is fatal. It is to turn a relative truth into ruinous falsehood. And, if we are to understand knowledge and judgment, we must discard the doctrine of a self which by itself is or could be real.[2]

Here, as everywhere, so far as I can discover, there is no way except one which holds good in the end. We must view the Reality in its unbroken connexion with finite centres. We must take it as, within and with these centres, making itself an object to itself and carrying out them and itself at once ideally and practically. The activity of the process is throughout the undivided activity of the Reality and of the centre in one. There is in the end no "between," nor any external relation. The striving of one side or the other merely for itself is impossible, and to seek to verify such a striving, for instance, in selfishness or its opposite, is futile. And in knowledge the impression by the object and the will to experiment in fact with the object or to grasp it ideally, all belongs to the single activity[3] at once of myself

[1] *Appearance*, chap. xxiii., MIND, No. 33.

[2] In his interesting book, *Pragmatism and its Critics* (p. 31), which I have seen while reading over this article, Prof. Moore states that the doctrine that the individual consciousness is a function of the "community life," has appeared only within our own generation. Such a statement surprises me. Is Prof. Moore really prepared to deny that the doctrine was taught by Hegel, and that I, for instance (if I may mention myself), following Hegel, fought for it in 1876? What Prof. Moore, I think, has failed to realise is the necessity for defining the "community life," and for deciding whether this is *merely* social, and, if so, precisely in what sense. We seem to have here once more the well-known old ambiguity which obscures, and which assists, that which calls itself Humanism. But is Prof. Moore ready to identify reality with the "community life," and, if so, in what sense of this term? The question left unanswered surely threatens with ruin Prof. Moore's doctrine as to the perception of material objects. But I am glad to find that on the whole the differences between Prof. Moore and myself are small in comparison with the amount of our agreement.

[3] The same thing of course holds with regard to passivity. My present actual contents are, for instance, disturbed by the felt inroad of an un-

and the whole Universe. For certain purposes (if I may repeat this) the division of subject from object, and the relation taken as existing between them, are ideas which are requisite. But beyond these purposes such ideas are ruinously false. They are directly opposed to our immediate consciousness of the whole relation in one, and, if you start from them as premisses, you are inevitably entangled in a network of dilemmas.

You cannot however, it will be urged, deny that with every judgment there goes an element which is only personal and merely "subjective". There is surely something, when I judge, which you cannot take as belonging to the object. Certainly to this I agree, and to myself it seems even incontestable. But what, I ask, do we mean by the "subjective"? For myself it is merely the irrelevant. It is that which does not count, it is that which falls outside of the matter here in hand, and does not now serve our purpose. Our purpose, when we seek truth, is the ideal qualification of the object. In our search for goodness or for beauty again in each case we pursue a different end, and the subjective is whatever in each case is irrelevant to our end. The irrelevant may be called the "mere this," because it is left behind in the general immediacy of the moment. And it may be called the "mere mine," because my self is a construction based upon the feeling of one finite centre. But there is no mere "this" or "mine" which is such absolutely. These things are everywhere illusions, unless we take them as relative.[1]

The merely personal is the irrelevant, but this brings us to a serious difficulty. How can anything in the end be irrelevant? If all in the end hangs together, then, whether in the world inside us or outside, there seems no place for irrelevancy. Nothing can really be quite loose from anything else in the Universe. On this conclusion I have to insist, and I accept the consequence that all irrelevancy, when you go further back, becomes a matter of degree. The alleged bare conjunction of mere facts is itself a lower kind of connectedness. It lies at the bottom of the scale of truth and reality, but not somewhere outside it. And even degree itself, I have to add, in the end is transcended. Our distinctions all hold good, but not precisely in those forms which for us are necessary.[2]

expected perception or of a sudden and surprising thought. And on the other side the object is passive where in reflexion I attack and analyse it. But such passivity is on neither side the change made in a thing acted on merely from without. Truth does not break into my premises like a burglar, nor again like a corpse does it suffer my anatomy.

[1] See *Appearance*, chap. xix., and MIND, No. 62, p. 174.

[2] *Cf.* here MIND, No. 74.

All judgment and truth depend on distinction, upon abstraction and selection. That which falls outside a particular judgment is hence taken as not counting for the purpose, and this not merely in degree but utterly. And, if truth is to exist, such an attitude is necessary. You cannot (to put the same thing otherwise) condition your judgment from the outside. After it is made, you can of course go on to reflect on it and to correct it, but for you, while you make it, its truth must be absolute.[1] Apart from a selection to which you commit yourself unreservedly and unconditionally, no truth is possible.

The selection is not arbitrary for its object is truth. Our goal is in the end to gain Reality in an ideal form, to possess ourselves of a self-contained individual whole. The criterion here, as everywhere, which we use is the Absolute. And the justification of our procedure is through its result. We seek, that is, to include the conditions of the assertion within the assertion itself. And those conditions which we take anywhere as falling outside of our assertion and as irrelevant, are so actually for our purpose.[2] They are disconnected from that purpose to such a degree that we can treat them as "matter of fact," which is only coincident and which therefore is negligible. And our object can be gained, so far as we gain it, by no other method.[3]

Every judgment therefore transcends immediacy. It involves a distinction and selection, and it may be said to pass beyond whatever for its purpose it leaves outside of its object. But the notion of a psychical subject, standing opposed to the object and then transcended somehow in knowledge, must be rejected as illusory. It holds good elsewhere, but only so far as it is an idea which works usefully.

[1] *Cf.* MIND, No. 66. It is impossible in the end by any judgment to qualify Reality as conditioned. R, taken with the condition, implies a higher R within which it falls and of which it is asserted. This general principle has of course many applications. Thus (as we have seen) you may attempt to make the qualification of the object in a judgment include also the personal satisfaction of the judger. But this inclusion forthwith makes a new object, and so on indefinitely. Hence the satisfaction of the judger, as and while he judges, is necessarily excluded from the judgment. From the other side, the satisfaction, or the psychical prevalence, which is asserted, cannot be the satisfaction or prevalence belonging to the act of such assertion. It may or may not be consistent with this, but to judge concerning such a point belongs to and involves a further reflexion.

[2] *Cf.* MIND, No. 74.

[3] The same thing holds again of course *mutatis mutandis* in Ethics and in Æsthetics, in short wherever you have an object.

And even the account of truth which we have just given cannot satisfy in the end. It implies that dualism which, involved in truth's essence, for ever stands between it and its goal. Truth is not perfect so long as it fails anywhere to include its reality, and its reality is not whole so long as any of its conditions are left out. Truth, compelled to select, is therefore forced to remain for ever defective. Its purpose, though realised increasingly, is not utterly fulfilled, and to fulfil that purpose would be to pass beyond the proper sphere and limits of truth. The problem cannot be solved by any alleged creation, in and by one act, of truth and reality in one. And it cannot be solved by that reunion at a higher level of fact and idea, which we can produce (I will not ask how far) in our intuitive knowledge or again in æsthetic perception. For everywhere there is an object which remains incomplete in itself, and which in any case could not be an object if nothing else remained outside. Truth in short is about the real, while that which is only "about," has stopped short of the truth. The complete attainment of truth's end is reached only in that Reality which includes and transcends intelligence.

The question, How far a judgment refers to something beyond itself, can now be answered as follows. If you take a judgment as my psychical state, then certainly it refers to that which is beyond itself. But to take a judgment thus is to destroy its essence and to be lost in dilemmas. From a better point of view our answer to the question is twofold. (i) No judgment can refer to anything beyond itself, since in every judgment the ultimate Reality is actually present. In any judgment on the other hand this Reality is incomplete, and there will therefore be a difference between the Reality present and the truth actually reached in the judgment. But this difference remains within the object, and for truth to pass or to refer beyond that is impossible. (ii) In the second place every judgment is conjoined with irrelevant existence and must transcend this. For a judgment to exist, you must have that which, as you judge, you do not in any sense include within the object. This attitude, untenable in the end, is essential to truth. But if, going further, you desire to know how in the end irrelevancy is explained, the answer is that it cannot be explained. Irrelevancy belongs to the fact of finite centres and the process in time, and this aspect of the Whole I at least have set down as inexplicable.[1]

[1] Those who have done me the honour to read my book will know this. Other critics may be referred to the Index (in any edition of my work) under the heading Inexplicable.

I will dwell further on one of the points which has just been noticed. Judgment refers always an ideal content to reality. Now in every judgment this reality is at once the whole Universe and something less than the Universe. (*a*) Although judgment is mine, and again involves a selection, still what it qualifies is the one all-containing Reality, present alike to you and to me and to every one else. Let us suppose this to be otherwise, and knowledge is destroyed. For knowledge apart from the real is nothing, and the real again, on our view, is nothing if apart from the Universe. And we may once more remind ourselves that to leave truth for something outside which it does not include, is illusory and senseless. On the other hand, suppose, for instance, that the lapse of time were ultimately real in our experience, then what on such a view would have become of our past? To us it could be nothing, unless indeed we possessed a miraculous "Faculty of Memory". If there is not, present in this passing "now," a Reality which contains all "nows" future and past, the whole of our truth and knowledge must be limited to the "now" that we perceive. For to reach a larger Universe by transcendence would really be nonsense.

On the other side (*b*) what I have in judgment is *not* the whole Universe at once. This seems obvious, and, for example, it is clear that I must leave the present to gain, so far as I am able to gain, the past and future. For I do not possess these as present. I have everywhere indeed present to me the whole Universe, but I have not all of its detail or even its actual complete form. In knowledge what is felt and perceived at any moment is but little, and what again is true is but ideal. That which we call our real world, the past and future of ourselves and of others, and the whole body of things common to us—all this in the main is ideal construction made by selection and synthesis. It is the Universe realising itself as truth within finite centres. And the immediate experience on which this common world, so far indeed as it is common, is based, is at any time and in any centre obviously incomplete. The entire undivided Universe in short is everywhere present, but it is present as appearance and but partially. And, though it again in and for us transcends this partial character, it never does so completely.[1]

We have to guard ourselves here against a double mistake. Truth, we have seen, qualifies the Reality by an ideal con-

[1] The reader must not here take me to have forgotten the worlds of art and of social reality. I am confining myself here to the problem of knowledge and of truth in the narrower sense.

tent. And we may be led to take on one side this ideal content as detached wholly from the Real, to which then we apply it. And the Reality on its side may perhaps be regarded as an undetermined object, such as mere Being or again the Universe at large. But, in the first place, there is no such thing as an ideal content which absolutely fails to qualify the Real. Except in a relative sense, there are no ideas which float or are suspended, or are assumed or presumed or in any way entertained, except as adjectives of the Real. This is a common mistake which leads everywhere to dangerous confusion and error.[1] And in the next place the Reality (as we have seen), while it *is* the Universe, is never the *mere* Universe. It is always also a selected reality. The selection may be made only by a designation that does not seek to specify, but the selection always is there. My idea is not attached to a blank object, but is launched into a context which more or less is distinguished and ordered. And thus judgment in principle, we can say, involves mediation and is in a sense inferential. It asserts something of and in a whole, and the place of this something in the whole and the relation which it bears to other elements, are problems implied in the assertion. "Reality is such that S is P," may be taken, we saw, as a formula which expresses the nature of truth. S is P (to put it otherwise) *because* Reality is such. The "such" is that order which we realise progressively in an ideal system. The "because" is the conditions more or less specified, the intermediaries which ideally connect S and P.[2] This mediation must remain, while truth is truth, a work for ever unfinished, but the search for its completion is implied in the very essence of judgment.

I will pass on now to consider two questions which the reader perhaps may find more interesting. (*a*) Has every truth which I think been thought before? Did it, as truth, always exist before? And, together with this, I will ask, Can truth or knowledge alter reality? (*b*) Further again in what sense, if in any sense, can I be said to *make* truth?

(*a*) Neither this problem nor any other problem can be solved by bringing in the potential or virtual.[3] This is a

[1] See MIND, No. 60. Into this error, with really no decent excuse, I fell myself for a time (*Principles of Logic*, chap. i.). The second mistake I certainly never made, though I failed to be clear on the matter. But see pp. 109, 438 (*ibid.*).

[2] To take the intermediaries as mere events in time is a ruinous error to be examined later.

[3] Other phrases of the same kind are "nascent," or some word ending in "ible," or, possibly again, ὕλη.

device specially favoured by "empiricists," and is perhaps the screen that serves most to veil their bankruptcy. Prof. James, as we shall hereafter see, can furnish us with a signal illustration of this misuse. But I cannot pause here to dwell on a matter which I must venture to regard as settled. The recourse to the potential is everywhere a worthless self-deception, and, so far as I know, no serious attempt has been made to justify it against criticism.

Passing from this point, there is a sense in which we may maintain that every truth, however old, is new at any time when it is affirmed. And, for myself, I agree that in this sense no judgment ever is repeated. The occasions are different and so are diverse, and, for myself, I am bound to hold that the diversity of each appearance in some sense in the end qualifies the identical content. But this qualification, we have seen, must here be disregarded as irrelevant.

What then am I to answer to the inquiry whether a truth, which I think, is possibly now thought for the first time. To go beyond possibility to myself seems here out of the question. For the full extent of finite mind, and of the events which happen there, is to me clearly unknown. To this you may reply that, for anything we can tell, the world of finite minds, with the exception of a small province, is out of temporal relation with ourselves, and that therefore any general assertion of priority in time could have no meaning. With this naturally I agree, but our doubt cannot in this way be removed. Let us confine ourselves to those finite minds among which our before and after hold good, and yet how much even of this region do we certainly know? Even here to assert positively that my truth has never been for another mind before me, seems not in my power. On the other hand the possibility of such a first appearance must in many cases be admitted. The description of truth as that which is essentially common to more minds than one, must (we may remark in passing) be rejected as false. Within our series the individual conditions may, for anything we know, neither be shared nor recur, and the truth may appear never but to one person, and only once.

I shall be told perhaps that there is a higher Mind and Intelligence by which all truths are thought. Even if we admit this, there however remains, in connexion with this, a question as to the validity of before and after. I will not, however, discuss this question, since I do not accept the Intelligence referred to. I am not asking here how God is to be conceived by the religious consciousness. For me (readers of my book will know) the Absolute is not God, and we

here are dealing theoretically with first principles. Certainly I admit that the Absolute Experience may possibly contain matter which is not included within the experience of any finite mind. I incline to the opposite view, but I still think that the doubt must be admitted.[1] Here however the question is confined to judgment and truth, and I see no reason to suppose that, outside of some finite mind, truth and judgment are possible. And hence on the main issue without hesitation I can reply thus. It is possible for a finite mind to have a truth which, as truth and judgment, is for no other mind whatever, and has never in time existed before.

But I must hasten to add that any such answer is one-sided. It pays its regard solely to that which is but one aspect of the whole matter. Wherever you have truth you must have one or more series of appearances in time, of events which occur one before or after another. On the other hand, with no more than this, truth would have no existence. Events happen because of that which is beyond all happening and at once contains and subordinates its temporal form. The Reality, above mere time and mere relations, possesses now and always all truths, whether actual or possible. And hence the whole view for which a truth first was not and then is, must be set down as in the end inadmissible and false. You may therefore insist that my present truth was waiting there and has been found. Such a statement once more must in the end be called untenable, because it again is but partially true. But it is truer far than the assertion that a truth can originate as this or that person first conceives it.

Starting from such a basis we can now dispose rapidly of a further question, Is it possible that any knowledge should alter its object? It is easy here to answer in the negative, and even to insist that the opposite is really self-evident. But the assertion, however self-evident, that reality or fact is not altered by knowledge, is still but a partial truth, which, taken as more, becomes false. For if truth and knowledge, when they come to exist, make no alteration in reality, to what other region, we have to ask, does their appearance belong? To deny that knowledge happens, or to assert that, happening, it makes no difference to reality, seems a monstrous paradox. And you cannot dispose of such an objection by insisting blindly on your opposite thesis. Both thesis and antithesis are but aspects of a truth which at once over-rules and embraces them. The Reality was known always, and

[1] *Appearance*, pp. 273-274.

now its knowledge occurs. My contribution leaves it unincreased, and yet is indispensably requisite. The fact of my knowledge makes an evident change in reality, and yet the idea that the Universe is changed by me must be rejected as folly. We are moving here in a region of partial truths broken away from that which includes all aspects in a higher experience.[1]

We cannot always be labouring to express at once the complementary aspects of the whole. We are forced, to suit our varying purpose, from time to time to make statements, which, as they are made, contradict one the other. Unless the Reality itself enters into the process of events, unless it itself is what it becomes there, unless it itself discovers itself to itself and us, and takes on a change from that discovery—the Reality remains outside of knowledge, and itself is unreal. On the other hand if that which is discovered is not found, if that which appears is not revealed, if in short the thing, which we get to see, was really not there—then reality and knowledge once more are illusory. But we are unable to combine these partial truths so as to understand in detail how both of them go to make the Universe.

The position, just reached, anticipates our answer to the question which follows. Prof. James and Prof. Dewey have each advocated the view that truth is *made*. I cannot however find that either of them has made an attempt to consider seriously the whole subject.[2] If I can make truth, I can make also, I presume, error and falsehood, and goodness and beauty, and whatever is opposite to these. Everything, in brief, that is covered by the terms value and worth, is in the end merely made. It will repay us at some length to examine this statement. The conclusion which I have to advocate is briefly as follows. The doctrine that this or that man, or set of men, can make truth, is in the end false and even monstrous. From one point of view I can be truly said to bring truth into being, either for the first time or once

[1] The attempt to escape by urging that a difference is made but made only to me, cannot succeed. The difficulties which arise here should be well known, and can never, I think, be met. To fall back on an external relation, which, though external, is lop-sided and so makes a difference to one term, seems even ridiculous. The conclusion which will follow really, is that neither knowledge, nor anything else, can make any difference to anything, and that anything like alteration is an illusion which itself could not exist.

[2] *Cf.* MIND, No. 66, p. 237. Prof. Dewey has republished the article there noticed, but has not tried, I think, to go any further into the matter. (The above was written before Prof. James's lamented death.)

more. But there is no tenable point of view from which I can be properly said to make truth.

Any such expression is condemned, we may notice first, by the usage of language. I may make a true assertion or a mistake, or again an experiment, but, unless I violate language, I cannot make either a truth or an error or a lie.[1] Now I am not suggesting that such usage is everywhere infallible, but I am sure that it deserves everywhere our careful attention. And in this case it is based, I submit, upon a distinction and on a principle which is valid.

What is "to make"? It is to produce in time, and usually also in space, a certain existence. What so exists may, or may not, be what we call a thing which goes on to endure for a period. Neither endurance, nor again the character of being a thing, is here really essential. I can, for instance, make a noise or an experiment. What is essential here and essential absolutely is the aspect of event and of temporal existence. It is this aspect of happening in time on which the word "make" lays its stress. And hence to make anything, so far as anything goes beyond existence in time, is not possible. I can make a box but not the nature of the materials, nor again the properties of the box itself when once made. I can make, as we saw, a noise, but to make an explosion begins at once to strain language. The explosion refers to that which is beyond the mere course of events. In this respect it is like an act, and I cannot be said to make an act. And on the same principle truth and error, or beauty or goodness or badness, are none of them things which are made. The life of none of them is confined within that element to which making points, and to which it gives emphasis. They appear in time certainly, and as certainly they can be made to happen, but they cannot be identified wholly, or even mainly, with their aspect of existence and fact.[2]

Truth, beauty and goodness must appear as temporal facts,

[1] I can make a lie only when the lie is regarded as a thing which exists.

[2] Illustrations, I know, are dangerous, but perhaps to some persons the above may be clearer if I state it as follows. Suppose that there is a necessary way of doing something, say of making a box, can you be said to make this way? No, it may perhaps be answered, but all the same I make the box, and, if so, why not truth? The reason why you cannot, may be put thus. The box can be regarded, and is regarded, as separable from the way in which it has to be made. But, with truth, an abstraction of this kind is not possible. There is no truth left if you abstract from the way in which truth is made, a way which itself is not made. What is made is therefore something which, taken by itself, is not truth.

but their essence does not consist in that appearance. It transcends the lapse of time and the flux of change, and it everywhere in this sense is eternal. Wherever you have an object taken as good or beautiful or true, or as the opposite of one of these,[1] you have at once something which reaches and holds beyond time and event. And, if it were otherwise, a truth, true at one moment, might at another moment have become a falsehood; and, if so, obviously the whole notion of truth is destroyed. "Oh no," I may perhaps hear, "a truth at any moment may become false, and I can make it false and can make something else true." Such a reply to my mind is based on sheer confusion and want of thought. We can say of course first, "Now it is light," and then "Now it is dark," but obviously, with this, the first truth is not falsified. That truth was stated ambiguously and imperfectly, and involved a condition not made explicit.[2] But assuredly, so far as it was true, its truth is eternal. And of course again you can alter the fact. You can make it so that now not the former truth but another truth holds good. You have brought this other truth into existence, and you have made it appear. But on this ground to assert that you have made it, shows, to my mind, mere confusion.

And even if "Humanity" is brought in, the same answer applies. This seems to be obvious if by Humanity you mean merely the set of beings on our planet. Or if, attempting to profit by a wretched ambiguity long since exposed, you seek tacitly to identify Humanity with all finite mind, or perhaps the entire Universe, still your conclusion is false. Even from such an extreme paradox it does not follow that truth can be made. The issue still turns upon the way in which Humanity or the Universe is taken, and on the position given there to the aspect of temporal event. But it is difficult to discuss a doctrine which its supporters seem afraid even to try to state clearly.[3]

Every truth is eternal, even, for instance, such a truth as "I now have a toothache". Truth qualifies that which is beyond mere succession, and it takes whatever it contains beyond the flux of mere event. To be, it must appear there, but, to be truth, it must also transcend that appearance. The same thing holds again without exception of all beauty and goodness, and of everything in short, however mean,

[1] You can, we saw, "make a mistake," but this is because, and so far as, you can regard a mistake merely as an event.

[2] See MIND, No. 74, pp. 164 foll.

[3] I have repeatedly called attention to what I must now regard as mere bankruptcy veiled by ambiguity.

which is apprehended as an object.[1] You may be said to make me happy, but to make it beautiful or right or good or true that I am happy, violates both language and reason. Such characters do not happen, and still less are they made. In a sense you make them to be, but for any man to make their being is inconceivable. Though revealed in time and in our "mortal world," they are not subject to its chance and change, and, though in this world, they remain something which never is of it.

The conclusion is suggested that if that which calls itself "empiricism," takes reality to have its life in the mortal world of events, and holds time and change to be ultimately real, no empiricism can give an account of truth or beauty, or, generally, of goodness or worth. It will be compelled to break openly with the plainest of facts, or to obscure its bankruptcy in a mist of phrases such as "potential" and "virtual".

I will ask finally, at the cost of repetition, how far it can be said that "Truth does not depend on me". There are misunderstandings here against which it is vital to guard our minds. Obviously, first, in the case where the truth is about me, the assertion that it in no way depends on me is false. On the other hand, if the "me" stands for that which is irrelevant in and to the judgment, this same assertion (we have seen) will hold. Its more probable meaning, however, is that truth does not depend on my *act*.[2] And here, as we have argued, a distinction must be made. My act certainly can be said to bring a truth into existence, but there is that in the truth which essentially is beyond any act in time. The truth can also (we have seen) be said to be prior to my act and to be found.

My act never is creative. It presupposes always what we have called the dualism between fact and idea, and to create both at once is beyond us. And thus the truth about a fact must be for ever beyond it. It would be otherwise if truth were the immediate experience which to some extent my will can produce. It would be otherwise, again, if the ultimate real union of both aspects could be brought into being by me. But, since creation is impossible for my will, that must still be limited to and by fact. Any act of mine is therefore compelled to be one-sided. It brings into temporal existence

[1] Not only is all beauty an object, but it is even taken as that which is self-existent. *Cf. Appearance*, chap. xxvi.

[2] If the "my" is here taken in opposition to the object, and it is assumed that my act is not also the act of the Reality, that would be of course once more an error which has been dealt with sufficiently.

something which, except for its aspect of existence, cannot be properly said to depend on the act.

You may reply that the whole thing is a matter of emphasis. You may object that in acting, and even in making, if you insist on emphasising too strongly the aspect of mere event, you in the end would have no act, and nothing in the end could be said even to be made. In the end both aspects are inseparable. I do not seek to dispute this, for in what has gone before I have been endeavouring throughout to urge (if you please) that falsehood lies in a one-sided emphasis.[1] And to say that truth depends on me, and still more to assert that it is made by my act, is therefore certainly false. For by its emphasis on the aspect of event such an assertion really means that in this aspect consists truth's essence. And it really denies that other aspect of eternity apart from which truth has utterly perished. Whatever else you find to say about truth, you must still be able to add that it was, and is waiting there to be found, and that it is made by no man.

I will now proceed to touch in passing on two further questions, (*a*) What is the relation between reality and truth? and (*b*) Does truth copy reality? I have dealt elsewhere with these subjects,[2] but, in view of persistent misunderstanding, I will venture on a brief repetition.

(*a*) You cannot ask how in any proper sense truth is related to the real. For such a relation to be possible, you would require reality on one side and truth on the other. And, since without truth reality would not be real, and truth apart from reality would not be true, the question asked is ridiculous. There cannot in the end be a relation between two inseparable aspects of one whole. On the other hand you can inquire as to how truth stands to reality, in this sense that you can ask in what way truth is different from and falls short of the Whole. What is it lacking to truth, on the addition of which truth itself would be reality? This is a question which to some extent can be discussed and answered.

Reality for me (if I may be pardoned such repetition) is one individual Experience. It is a higher unity above our

[1] See above. Everything (to repeat this) in the end depends on everything else, and connexion is in the end a matter of degree. It is our selective emphasis for a certain purpose which makes the relative absolute. And the point here is this, that, in asserting the dependence of truth on my act, the emphasis and the selection is not warranted by the degree of connexion.

[2] I may refer in particular to MIND, No. 62.

immediate experience, and above all ideality and relations. It is above thought and will and æsthetic perception. But, though transcending these modes of experience, it includes them all fully. Such a whole is Reality, and, as against this whole, truth is merely ideal. It is indeed never a mere idea, for certainly there are no mere ideas. It is Reality appearing and expressing itself in that one-sided way which we call ideal. Hence truth is identical with Reality in the sense that, in order to perfect itself, it would have to become Reality. On the other side truth, while it is truth, differs from Reality, and, if it ceased to be different, would cease to be true. But how in detail all this is possible, cannot be understood.

Further, the ultimate Reality is not a development, and it is absurd even to ask if it progresses. On the other hand it essentially contains a process, or rather processes, in time. And, looking at it from this partial aspect, we may say that the Reality uses ideas in order to realise itself. Immediate experience, itself showing ideality in lapse and change, in its endeavour to complete itself develops truth. It produces ideas progressively freed more and more from union with particular objects of sense. It uses these ideas to procure for itself a fuller experience, both practically and in higher perceptions and in intuitive understandings and in apprehensions of beauty. It is the nature of ideas, we may say, to pass over into a completer whole which both subordinates and includes them. Even for us in our experience this end partially is attained. And in the absolute Reality it is reached entirely and throughout, though obviously for us not visibly.

On the one side therefore our experience remains in part merely ideal, and thus, within certain limits, an activity which is but theoretical is called for and is justified. With every side of our life all the other sides are inseparably implied, but it is impossible that everywhere in detail these other sides should be verifiable. So far as the detail goes, we everywhere, and not merely in theory alone, may be said to rest upon faith. But on the other hand the character of the absolute Reality is everywhere manifest, and we can possess no other possible criterion of truth.

(*b*) For a discussion of the question as to how far truth is a copy of Reality, I must once more refer the reader to an article in MIND (No. 62), but I will repeat briefly what seems called for here. On any view like mine to speak of truth as in the end copying Reality, would be senseless. To copy is to reproduce in some other existence more or less of the

character of an object which is before your mind. Now, apart from knowledge and truth, there can be no original object before you to copy. And hence to make truth consist in copying is obviously absurd. This question I take to have been settled, once and for all time, by the post-Kantian criticism of the doctrine of the Thing-in-itself. That criticism I take to have proved that, outside of truth itself, there can be no criterion of truth.

The working to carry out a certain general character, to construct an ideal world according to a certain prescription, would surely not be copying in detail. And, when the general character and prescription is itself again not copied, the idea of copying is nowhere applicable.

Copying, as an ultimate account of truth, is therefore out of the question, and to ask what would be gained by it, if it were possible, is an idle inquiry. I have spoken of course, so far, of that copying which is absolute, that which has to reproduce in truth an object which does not already itself more or less consist in truth. On the other hand with copying in a relative sense we are all familiar, though the extent even of this we are prone to exaggerate. Past and future facts, for example, can scarcely be copied, unless we are assisted by some miraculous "Faculty". We come nearest to copying intellectually when we attempt to describe a perceived fact. But, even here, the fact itself depends more or less upon idealisation, and the reproduction of it involves a further process of the same kind. And, where this can perhaps be doubted as to the fact itself, as, *e.g.*, in sensations of pleasure and pain, the conclusion as to our truth about this fact will still hold. Truth must select and abstract, and, if it failed to do this, and if it repeated feeling, it would be itself mere feeling and no longer truth. But I will not venture here further to abuse the reader's patience,[1] but will pass on to deal with another well-known topic.

What is the good of truth? To ask a question is here, as everywhere, to imply an assertion. And the assertion involved in the above inquiry is often as follows. The inquirer may affirm (*a*) that truth itself is not good, and he may (*b*) imply also that some other aspect of life, taken by itself, is good. This is the position of the ordinary Hedonist, and

[1] It can of course be said that with truth we have the same idea in two different contexts. We have it before us as an adjective of the real, and at the same time it has its place in the series of psychical events. This, I should agree, is indubitable, but, once more here, there is obviously nothing like copying from an original.

he at least knows, or may be supposed to know, what he means. But it is the position of others also, who possibly may know what they mean, but whose mental state, for anything that appears, is certainly otherwise. Any one however who in philosophy asks such a question as "What is the good of,"[1] is obviously bound, when challenged, to state his answer to the inquiry, "What is good".

On any view such as mine no one aspect of life is good ultimately by itself. To set up any one aspect of life as the absolute Good or Evil, and to reduce the rest of life to mere means, is a most serious error. Relatively of course with every aspect of life this point of view is tenable. Morality and religion can be regarded as means to worldly success or to bodily health. We can say the same thing of pleasure, or again pleasure may be taken not as a means but as the end which all else should subserve. The pursuit of beauty in art may be spoken of as a more or less useful amusement, or as a way perhaps of keeping out of vice. And truth again also undeniably is useful, and is a means and instrument valued for the sake of other purposes. All this is justifiable, but justifiable only when we remember that it is but relative. To turn any one aspect of life by itself into the end is false ultimately. What is ultimately good is life itself or experience as a whole.[2]

The question, What is the good of truth? can (as we have seen above) be asked properly, if it means, How does truth stand to, and how does it conduce to experience or life as a whole. And, except as so conducing, you can certainly affirm that truth is not good, and that it possesses no value whatever. I emphasise this assertion, and I once more repeat that truth's natural destiny is to return once more into unbroken union with Reality, and to restore at a higher level that totality out of which it has emerged. But that this destiny is accomplished, verifiably and in detail, within and throughout our experience seems demonstrably false. And (as we have seen) within our experience truth remains and must for ever remain relatively free.[3]

[1] The same remark *mutatis mutandis* applies to the covert assertion contained in such phrases as "instrument" and "use".

[2] It is possible to identify Reality with the Good, but I prefer not to do this. It is unnecessary to enter on the question here.

[3] While denying this freedom, Prof. Moore, speaking for the "pragmatist" (*Pragmatism*, p. 168), allows, as I understand, to thought a value of its own, though not in "independence". It is, I think, important to have got even as far as this. But what surely follows is that to speak of thought, *e.g.*, as instrumental, is not permissible. The rest of the whole process is surely also instrumental, as thought is, and may itself, by the

The attempt to deny or to condemn the relative freedom of truth and of art, involves to my mind, in general, mere prejudice and error. And it is difficult to argue where, as opposed to you, you for the most part can perceive little else but confusion. But it may perhaps tend to make this whole matter clearer, if we consider it from another side. Let us take the instance of a high and heroical will for good at any cost to oneself, an effort which, so far as we can see, has failed to carry itself out. This effort, for anything that we can discover, has failed, even when you look at its indirect result in human history, and it has failed even when you regard merely the inner life of the man who has made it. It may have left that life more frustrated and more discordant, and in a sense really lower, than if the man had never risen to the struggle. Now, is an effort of this kind to be set down as sheer waste and loss? I abstract here from any belief as to a difference made to a state of existence after death. For such a belief may be true or false, but to call it verifiable seems nonsense, if we mean by that to imply that we can find that and how it holds in every detail. Apart then from any belief as to a future state, what are we to say of those moral efforts which, with all their intensity, appear to have failed? Are we to call them mere waste, or perhaps something even worse than waste? While on some other views this seems inevitable, I can give an opposite reply. For me the Absolute is there to see that nothing in the world is lost. That effort which for our vision is wasted, passes over beyond our vision into reality and is crowned with success. Of all the foolish criticisms (and they are many) which have been directed against the Absolute, the most foolish of all perhaps is that it is useless. And this does not mean that, whatever I do, it is all one to the Absolute. The Absolute is there to secure that everywhere the highest counts most and the lowest counts least. For it is at once the active criterion and the supreme power.

Truth and beauty then on the one hand within limits are free. On the other hand truth and beauty, all without exception, conduce to a higher Reality. But in detail this consummation must remain for us invisible. The idea, how-

same right, be taken as instrumental to thought. But Prof. Moore does not say this, and once more as to the position of beauty, so far as I have seen, he says nothing at all. But to deal with these matters is surely imperative. However, between such a "pragmatist" as Prof. Moore and myself, the points of difference (as I said before), in comparison with the amount of agreement, seem really small. And again with regard to Prof. Dewey the same remark, I think, would hold good.

ever, that any one truth is just as good as another is senseless. A truth is true so far as it works, in the first place theoretically, and truths, so far as they are empty and are idle, fail to work. They fail proportionately to make a contribution to the Absolute. But there are criticisms to which I feel that it is useless to reply. It is not given to any man to argue against self-satisfied ignorance.

In conclusion I will ask how far the view which I hold is open to the charge of "subjectivism" and "relativism". What I mean by relativism here is the consequence that, beyond this or that man or set of men, there is no truth or reality. In neither of these senses (between which of course there is in principle no difference) can my view be said to end in relativism. With regard to Solipsism there is, I think, no occasion for me to notice any criticism which ignores or is ignorant of what I have said on this subject.[1] And it is equally obvious, I presume, that, for me, reality and truth are not confined within the limits of any one set of finite beings, such, for example, as the human race.

Certainly for me beyond and outside of all finite minds there is no truth. From the doctrine which I inherited all such transcendence has in principle been banished. And certainly for that doctrine, once more, the desire and the striving of finite minds is essential to Reality. The immanent will of the Universe, for knowledge and truth within those minds, is impossible unless it is in one with their personal endeavour. If to hold this is to embrace subjectivism, then assuredly to subjectivism I have always been wedded. But, upon a view such as mine, that which is "objective" can be distinguished from that which is merely personal, and I have shown the principle upon which this vital distinction is made. And any view, I would add, in

[1] *Appearance*, chap. xxi. While revising this article I notice that Mr. E. D. Fawcett (MIND, No. 78, p. 200) takes me to start from a "provisional Solipsism". Mr. Fawcett has attended, I think, merely to one side of my view. On that view the whole Universe is directly aware of itself in each finite centre, but so as not there to be aware of the contents of any other finite centre *as they are experienced immediately by itself within that other centre*. The highest all-embracing experience is never reached in any finite mind. How this is possible, I repeat, is inexplicable. I fully understand that the logical result of applying here an "Either-or," is either a denial of any self or else an assertion of Solipsism, whichever of these alternatives you please. What I do not understand is how any one can suppose that I accept either of these alternatives. I may add that if I accepted either of them provisionally, I should have to accept it as final. But how much real disagreement there is here between Mr. Fawcett and myself, I cannot say.

which such a distinction does not hold good, is ruined irretrievably.[1]

For me truth gives the absolute Reality, the whole Universe as in its general character it really is. It gives its result imperfectly, as I have explained. But, so far as this truth goes, it is impossible to think that for any other mind it is otherwise. And, in attempting to entertain such an idea, you succeed merely yourself in thinking inconsistently. On the other hand, outside of this general character, in a sense relativism holds good. That which in particular, for one mind or one set of minds, is true or real or good, may be the opposite for another individual or set of individuals. And how far in detail this diversity may extend we have no means of knowing. In such a sense our knowledge must always be relative. But this detail remains subordinate to our general principle. It is not mere "matter" conjoined externally to an indifferent "form". Any such indifference (some critics tend to forget) is a positive doctrine which it is incumbent on them to prove, and which for me is untenable. The detail, upon our view, can vary only so far as the general character is preserved. Hence our faith in the world, in truth and in beauty and goodness, is unshaken by doubt. And, if so, to hold that belief in an Absolute can make no difference to any one or to anything, seems ridiculous, while to intimate that this is even my own opinion is worse than ridiculous. The Absolute is that by which all reality, and all truth and goodness and beauty, in their various degrees are, and without which they are nothing. And, if there is any one in whose eyes this makes no difference, I address myself to others.

The above are those aspects of truth on which I wished to remark. I cannot hope that I have succeeded in not tasking the patience of the reader. My remarks have at the best been disjointed, and I have repeated (it is the vice of advancing years) what I have said, and have said perhaps too often before. But I will end by insisting once more on that

[1] A point on which difficulty, I believe, has been felt, is the account to be given of Nature and of its position in the Universe. Nature has seemed on my view to possess no external reality. But this apparent failure is mainly perhaps due to a defect in my exposition. I have emphasised perhaps too one-sidedly our inability to arrive here at an ultimate explanation. I never sought to deny that in our own wills we have the experience of what we may call a power of real externalisation. Certainly the idea that any such externalisation can break somehow quite out of the absolute Experience, to my mind remains untenable. But to a conclusion which stops short of that, I am far from being in principle opposed.

with which I began. Except in connexion with a view or views as to the nature of Reality, any controversy as to the nature of knowledge and truth in the end is futile. Such a discussion may be more or less instructive, and it may be stimulating more or less, but it never can deal with the real question at issue, or arrive at any final result whether positive or negative.

In connexion with the foregoing paper I had written, some months before Prof. James's lamented death, a criticism of some of the views set forth in his *Meaning of Truth*. My purpose in writing this was to invite Prof. James to furnish certain explanations. And now, especially as the following remarks are not a general estimate of his work, and as they give no expression to my feeling of admiration and genuine respect, I have hesitated to publish them. But for the reader who will take them merely for what they are, I think it better to do so. And I will begin with the question of Relativism.

We must here understand relativism in two senses. (*a*) In the first of these, truth and reality are simply for this or that finite individual, while (*b*), in the second meaning of the term, it is some set of individuals on which everything depends. (*a*) In the first sense Prof. James certainly did not advocate relativism. What he calls Pragmatism and Humanism are obviously compatible even with an undue disregard of the individual person, and with an exaggerated emphasis laid on the universal side. With regard to Humanism, the tendency of what may be called Humanism to depreciate the aspect emphasised by "Personal Idealism," may be called historical, for it appeared years ago in one part of the Hegelian school. In other words there is no connexion in principle between "Personal Idealism" and the doctrines of Pragmatism and Humanism. Certainly then, Prof. James did not intend to teach relativism in this first sense, though whether his doctrine, when worked out, would have led to that result, I am unable to judge.[1]

(*b*) In the second meaning of relativism truth and reality are something merely for this or that set or collection of persons. And, in inquiring how far Prof. James was in this sense a relativist, we are brought up short by an ambiguity, which (though invited to do so) he, so far as I know, made no attempt to remove. The only thing, I would submit, which lends plausibility to Prof. James's doctrine of Humanism, is the equivocation by which Humanity stands, at discretion, either for the inhabitants of a certain planet or for the whole of finite mind, however and wherever and whenever finite mind appears. If we take Humanity in the first sense, as being merely one set of creatures, then relativism seems to follow. How am I to deny that *our* truth, *our* goodness and beauty, may be utterly false and bad and ugly to another race of beings, and that this other race is, notwithstanding this, as good as ourselves—if indeed there were any sense in such a comparison? And, if I cannot deny this, am I not really a relativist? What is the ground (I ask once more) on which the human race is to dictate to the Universe? (*Cf.* MIND, No. 72, p. 507.) What is the value of our inference to the nature of reality at large simply from what we happen to know of the history of one set of creatures? Prof. James's doctrine, I would repeat, to myself seems plausible merely

[1] The words quoted by Prof. James from myself (*Meaning of Truth*, p. 71) as applying to the "humanist," were used by myself of Personal Idealism. See MIND, No. 51, p. 14.

so far as he succeeded (I do not of course mean intentionally) in keeping it ambiguous.[1]

Possibly Prof. James really held that our race on this planet is the same thing as all finite mind, or as all the finite mind, at least, that anywhere counts. His Humanism, if so, would have meant nothing new. He would have been in company which to myself is respectable, but, in attempting to make good this thesis, his hands, I think, would have been more than full. And such a conclusion, so far as I know, he never endorsed unequivocally. But, apart from some such conclusion, is it not futile to speak of getting to absolute truth by "simple inductions from the past extended to the future by analogy"? (*Meaning*, p. 267).

I am not saying that Prof. James's doctrine really consisted in a blind oscillation between two meanings of the word "human". He had, I must imagine, a view with two aspects, the connexion between which he did not, and perhaps could not, work out. On the one side this view seems much the same as that made popular by J. S. Mill. It differs, so far as against J. S. Mill Prof. James insisted on continuity. The difference, certainly, is real, but a question remains as to how far it will carry you? Continuity takes you, in some sense doubtless, beyond the present, but can it take you, and on what ground can it take you, to a real past and a real future? I will return to this point, and will merely say at present that Prof. James seems to myself to follow here J. S. Mill to a common bankruptcy.

But Prof. James's teaching presents another and a very diverse aspect. It suggests to my mind that in a great measure he really shared that view of the world which in the main I, for instance, inherited from Hegel. Prof. James desired to insist that there is much more in human society and in its history, and, I presume, in the Universe at large, than the changing accidents of a mere collection. And he held, I think, that in our own experience we touch intimately, and to a certain extent know, the real character of the whole Universe which there is immanent. Naturally I do not suggest that the difference between asserting and denying the ultimate reality of change, is a trifling difference. But the necessary consequences, as regards the value of the individual person and his place in the Universe, are surely far from being evident. And in short the radical opposition which Prof. James took to exist throughout between his own doctrine and that of monistic Absolutism, rested, I venture to think, on what I must call his partial ignorance about the latter. There are certain points in Absolutism which he did not like, and I myself could not say that I like everything in Absolutism. Clearly it is a "hard" doctrine. But to expect to get in detail all that you want just precisely as you want it, is to take a position which seems to myself justifiable only when stated with the very last degree of honesty and explicitness. And, apart from such a position, the real question is this, How, if you reject Absolutism, are you going to secure *that which you must have*, any more cheaply elsewhere?[2] This second aspect of Prof. James's teaching, in

[1] Prof. James, in *Pragmatism*, p. 30, inveighs against the monstrousness of holding that, given certain hideous crimes, good on the whole is realised. He insists, that is, on taking the crime in its abstraction as absolutely real. And then he goes on (Hegel would have smiled) to denounce "abstractionism". But, apart from that, on what ground could Prof. James have denied that a crime, however hideous, is no crime at all except for certain persons, while for other persons (for anything that he really knew) it might be a virtue? And what other aspect is there in his doctrine to save it from relativism in the extremest sense?

[2] Prof. James's idea as to Absolutism, that it is a way of getting what you want without paying anything for it, is surely (to any one who knows)

which emphasis is laid on the universal side, appears to myself joined to the former aspect of individualism by no intelligible bond. The connexion in his mind between these two characters of the Universe was, so far as I know, never clearly set forth.

I will proceed now to offer a few critical remarks on some of the doctrines contained in Prof. James's *Meaning of Truth*. The misunderstandings which these remarks are likely or certain to involve, may even themselves, I hope, lead to the removal of what, I submit, is real obscurity.

(1) Prof. James calls his own view the "pragmatic" view. If by this he means (as he sometimes seems to mean) merely that view which works best, we have here an attempt to beg the question at issue. The objection taken to Prof. James's account of truth, is taken precisely on the ground that this account fails to work theoretically. And practically (as I have urged elsewhere, MIND, No. 66, p. 230) Prof. James seems never really to have faced the problem of a genuine working creed. He never, I think, saw what is involved in treating *all* ideas, without exception, as merely useful. He, so far as I know, never even inquired whether truth in the end has to be consistent with itself. With regard to the *practical* character of all truth I will say no more here, as Prof. James himself seems willing (pp. 206 foll.) to treat the matter as of no moment. If this is really so, he would be at issue, I presume, with Prof. Dewey, and little or nothing of Pragmatism would, I imagine, be really left but the name.

(2) To pass to another point—we have seen that judgment involves mediation. This aspect of the matter has not escaped Prof. James, but he has, in my opinion, turned truth here into ruinous error. For he has taken intermediation to consist in a temporal process from the idea to a perceived object. To this conclusion, in spite of much obscurity, he seems committed. Where an idea merely leads to an object, we, according to Prof. James, have knowledge. Whether there is a relation of identity in difference between the idea and the object, a relation which is also for the knower, I am unable to say. The importance of both these questions is obvious, but the answer, if there is an answer, remains to me obscure. Apparently we have truth wherever an idea leads to an object.[1]

Any such doctrine is liable to objections which, I think, can never be fairly met. I recognise that I have now my chronic pain for which nothing can be done. I notice that a tree is about to fall upon the head of a distant person. The suggested idea of some action leads in me to its performance. In the third of these cases we have the definition without truth, while in the two former cases we have truth without the definition. With abstract truths, again, the verification in every instance by a process of events leading to a particular object, cannot be shown. Or consider truths about the past. Is there a real past, and, if there is such a thing, can it turn into a perception? Or have our ideas about it, if it is there, really nothing to do with it? Or, again, is the reality of the past merely ideal? I will lower down return to the difficulty raised by these questions. Even with regard to the future Prof. James's view will not work. Suppose that I foretell an earthquake to happen next year or after my death, how does my idea lead to the earthquake, and where does the process of truth fall? The doctrine that there is no

a striking revelation of the limits of his knowledge. (*Cf.* MIND, No. 66, p. 230.)

[1] I am of course prepared to give references throughout, but (since I admit that I do not understand) I think it useless to trouble the reader with them. And I confine myself here to the teaching of the volume mentioned.

truth apart from the action of some person here and now, is, I believe, a true doctrine, while the view that truth's essence is limited to that action I reject as false. And even this latter view seems hardly to coincide with Prof. James's teaching.[1]

If what Prof. James meant was merely this, that truth, to be true, must be in vital connexion with the world of particular feelings and perceptions, and in some sense is verifiable in this world, I am of course fully in accord with him. But to offer such a doctrine as something new, and as something which is to make a revolution in philosophy, would be to my mind ridiculous.

(3) I will notice now one method by which Prof. James appears to have thought that at least some troubles could be met. This is the old device by which at discretion the potential or virtual is substituted for the actual. As a good "empiricist" Prof. James here followed the tradition of his school. I could not say that he has here done nothing more than blindly follow his blind leaders, but I at least have not been able to discover what more on this point he has done. What has to be proved is, for instance, the existence of actual intermediaries in time. The possibility of such intermediaries does *not* assert their existence. It asserts something else, and what it really asserts is *not* a lapse of events.[2]

(4) I will return now to a point of extreme importance. Prof. James is of course against transcendence, but in this very matter he (so far as I can perceive) is threatened with ruin. The question is whether the object-reality, which he has to know, is not often in a world which should be beyond his knowledge. Take once more the instance of a past or future event. What are we to say with regard to the existence of such a fact? Does it transcend, is it outside of and beyond, the present Reality now immanent in my knowledge? To this question, as I have already explained, I myself reply with an emphatic negative, but Prof. James's answer to it remains to my mind unintelligible. And *any* intelligible answer, I submit, must ruin his theory. Let us say, first, that the reality of dead Cæsar is nothing beyond that which is immanent in what I know *now*—then what, if so, becomes of the absolute reality of time and particular events? How does this latter doctrine agree with the idea that the past is only ideal? But take a different view, and then what *for me now* is the past object? It has become a Thing-in-itself which for knowledge is nothing. And the intermediaries, which lead to this nothing, what are they for me? Obviously, through nearly all their extent, they again for me are nothing. And to speak of approximating where you can know neither the goal nor the road, appears really to be senseless. The above dilemma, I urge, entails ruin if left unmet, and I cannot believe that it ever was steadily faced by Prof. James.[3]

[1] *Cf.* here MIND, No. 66. I cannot venture to attribute to Prof. James the doctrine that the earthquake is a social event to which my idea leads by a human process.

[2] "A fact virtually pre-exists when every condition of its realisation save one is already there" (*Meaning*, p. 93). An explosion therefore has pre-existed whether I have, or have not, gone on to apply the match or pull the trigger. But the real question surely is as to *what* in every such case it is which does actually exist and pre-exist. And here the reader is of course put off with mere phrases. And I ask myself whether this really is to be taken as a great advance in philosophy?

[3] The question of truth about the past has been discussed by Prof. Dewey in his interesting volume, *Influence of Darwin*, pp. 159 foll. The

We obviously are here concerned with the relation of truth to knowledge and of both to reality. Have they any essential connexion at all? Can reality be a something outside which makes no difference? Can truth have no relation to it, or again a relation which is merely external? On the other hand, are we ready to bring reality within truth and knowledge, and both within ourselves, and to do this in earnest? After the criticism of now a century back one might expect that questions such as these could not be ignored. And it certainly would not be true to say of Prof. James that he ignored them. But, if any one can understand his answer, I cannot.

In a succession of volumes, perhaps too hastily composed and too hurriedly published, Prof. James wrote, I must believe, from a central point of view from which these essays were thrown out. But for a reader to discover this centre by following the opposite direction is far from easy, more especially when the reader stands outside and is perhaps not sympathetic. And if the central point of view has never really been worked out, have we, after all, any right to say that in a proper sense it was there? It is, I think, for those who believe that Prof. James made a revolution in philosophy, to justify that belief by an explanation of his doctrine as to the ultimate nature of reality and truth. And if the mistakes, which I doubtless have here made, serve to contribute to this result, then, however great they are, I shall not regret them. If on the other hand I am told that I have no right to ask for metaphysical doctrine where none was ever offered, I shall content myself with a smile. If there is anything in philosophy of which I am fully assured, it is this, that to seek to discuss the nature of truth apart from a theory of ultimate reality ends and must end in futile self-deception. And I can hardly suppose that the answer suggested above would have satisfied Prof. James. But, however that may be, and even though I fear that they may have robbed us of something better, the later works of Prof. James will have profited philosophy. To have excited inquiry and to have stimulated interest in the highest problems of life, is to have succeeded where, I suppose, most philosophers have failed, and where it can always be doubted if any further success is possible. But Prof. James's contribution to psychology will remain, I believe, indubitable.[1]

result to my mind is failure. If Prof. Dewey would remember that the person whom he calls the "intellectualist" has been long ago refuted, and that the real question is as to the nature and truth of his own view, the issue, I think, would become clearer. But nothing, I am sure, can fully clear the issue except a definite statement by Prof. Dewey as to what he means by reality. Why we cannot have this I do not understand.

[1] I need hardly inform the reader that Prof. James's posthumous volume appeared only after these pages had gone to be printed. I am unable, therefore, to my regret, to take any account of its contents.

II.—REALITY AS A SYSTEM OF FUNCTIONS.

By Gerald Cator.

I call those things functions of each other each of which is itself in the same degree as it is not-its-other.

Every function is analysable into a system of subordinate functions and these again into subordinate functions and so on endlessly. A function regarded under this aspect of plurality I shall call a functional system. Though, as I shall contend, everything that can be in any way referred to is a function and nothing at all else, yet since there arises in its due place in the involutions of the functional system, one function, to wit the human intelligence, as unaware of the functional structure of its object-world, it is desirable to have a word 'functionisable' to express the recognition of this structure as a potentiality, and another 'functionisation' to express the corresponding act.

My thesis is that functionisation—the becoming of a function itself-and-not-another is that in which the Realness of Reality and the Being of Being consists. The more functionised the more real. So far as anything is it is as functionised, as A-not-not-A.

To give some examples, matter, time and space are functions. A Human Life having any thread of unity is a function, so is the development of an idea or the history of a nation.

Each of these taken as a whole, is, in so far as it has distinctness, and it has distinctness by the simultaneous and correlative development of positive and negative relations.

It is important to note that functionisation is not a form imposed on a pre-existent matter of some kind but it entirely supplies both matter and form. Similarly a functional system never exists completed as something containing but not contained, but always taken as a whole it is a function opposed to its other.

Thus it is capable of endless analysis, for the elements resulting from each analysis will always be functional systems, and it is capable of endless synthesis, for the whole resulting

from each succeeding synthesis will always be a functional element, contrasted with and calling for synthesis with, its other.

Prop. I.—Proof of the functional structure of all possible content resting on its entire determination through a process which is a process of functionisation, viz., the continuous differentiation and integration of a continuum.

When I say the world, the universe or Reality the picture called up before my mind's eye is somewhat as follows:—

The Round Globe swinging through space, some picture of the distribution of Land and Water on it, the peoples, their industry and history, leading back to Rome, Greece, Babylon. Present events, political activities, reminiscences of scraps from the newspapers, *débris* of recollections of reading, the room I sit writing in, the scratching of the pen, the play of the firelight, the children sleeping upstairs, the foreshadow of to-morrow's work.

Now that this world is functionally determined I may show in several ways, but of these the most suitable for the present purpose is to exhibit the breakdown of the attempt to draw a line between what is present to sensation and its Ideal extension.

Directly we attempt to do this we become aware of ideal elements in the very heart of the given and of a factual aspect in the Ideal. Nothing is merely given, nothing merely ideal.

The This-Now which supports the ideal extension, is apprehended as determined in illimitable time and space in which it occupies an unique place.

Alter anything however far back in time and however far off in space and you simultaneously give the This-Now a compensating re-determination. The Matter which bulks so largely in my this-now is there known in a concept which has a history dependent on my past studies, and on my having partly absorbed certain current philosophical and scientific ideas; it would not be for a savage as it is for me, his world is as his mind is: his lack of general words is not a mere lack of tools for expressing his ideas.

Any one who thinks of the senses as mere windows through which the mind receives information of an independent and ready-made world of sounds and sights may also think of ideas in a similar way.

But whoever has got over this way of thinking will understand that it is just as true, no more true, and true for the same reason, to speak of the *same* world as known by different

knowers as it is to speak of the *same* object as perceived by different senses.

It is in each case an inference of which the justification is *not* its verification by experience but that it effects an integration of experience. The verification itself where it occurs is only a special case of integration, for the fact verifying is as much ideal as the idea verified.

Finally the 'I-myself' at the centre of my this-now is quick with Ideality, intensely sensitive to every happening, mirroring every possibility, a function of infinite variables. The sort of man I believe myself to be, the history that I (sometimes) suppose myself to have had, the beliefs and dis-beliefs which I suppose myself to possess: all these not only are determinate only as loci, but even as loci they are the variable and precarious resultants of ideal activities of inconceivable complexity of actions and re-actions and re-reactions echoing back on each other, modifying, annulling, intensifying each other, entering into new cycles, going through evolutions of evolutions, a swarming seething life of which every part is at every moment balanced upon and supporting the whole, a veritable microcosm, containing its histories, its pauses, its romances, its tragedies.

It is no more true that the given this-now supports the Ideal extension than it is true that the extension gives rise to and supports the given 'this-now'.

Extension and given are interdependent, they rest on each other: the real is a construction from the basis of the ideal. Thus the whole universe, the given and the extension which is intimately continuous with it, is in its entirety a functional product, a product of contradiction disentangling differentiation and reaction.

The Given and the Ideal extension reciprocally constitute and determine each other by their difference from each other. The character of Basis so far as the given has it is not anterior to the construction, but is *a functionally bestowed characteristic.*

Prop. II.—Proof that everything nameable is functionally determined and that it is nothing but a function.

We are tempted to think of the functional system as something the being of which needs to be accounted for, that is we think of some primæval nothing the dispossession of which needs accounting for.

This is a great fallacy—there is no such *prima facie* presumption in favour of the aboriginal being of nothing, as against the being of something.

Take the most extreme case; think of that formless, timeless, spacelessness which would remain if God annihilated every trace of Himself and of everything else.

This 'nothing' is as plainly an ideal or functional construction as 'the universe' for it is a universal ablation, a negative reflexion of all possible being.

In short alter anything anywhere and you alter everything everywhere for everything is 'alter' to everything else, that this is so is the presupposition of all possibilities; Being and nothing alike arise within and depend upon their reciprocity. How necessary this reciprocity is we may see by this, that if everything could absorb its other it would annihilate itself in doing so.

If we cannot say at once: anything which was everything would fail to be even nothing, we cannot say it only because in regarding the everything as failing to be nothing we invest it with a character of exclusion and so we regard it as not everything, *i.e.*, as not including nothing, for nothing is something so far as it is 'not-anything'. . . .

If the reader is a student of Idealism, he will find the route traversed in this paper so familiar to him that he may well be tempted to inquire whether there is anything at all novel about it, except the replacement of the ordinary terminology of subject and object by an awkward 'functional' terminology.

Now, though I am by no means in a position to claim or anxious to claim any degree of originality (since by doing so I should expose my conclusions to be criticised as nothing but the fads of an amateur speculator, whereas I believe that in very great measure they are the common possession of many thinkers of this time and of previous times also), yet I must say for myself what the reasons are which have led me to regard Functionalism as an improvement on Idealism not only as a terminology but also in substance.

The ego the 'subject' of Idealism is always clogged with the associations which cling to the subject, I myself; you, ,—Psychological Individuals with histories. The Psychological Ego, is so much besides a thinker of thoughts that inevitably its thoughts appear like mere passing accidents in its substance, like reflexions in a mirror.

Idealist thinking then starting with 'subject' loaded with these associations is exposed to a constant warping tendency to think of the subject as a thing, a substance.

For me subject and object are completely correlative functions, the subject is subject of the object and the object object of the subject. The object is not more dependent on the sub-

ject than the subject on the object. *Esse is percipere* for the subject and *percipi* for the object. This interdependence and co-relativity is complete, like that of the S. and N. Poles of a magnet. No object without a subject, no subject without an object. To such and such an individual subject such and such an individual object. They are a true functional pair of which the test is this, each would be the other in the other's place. So far as the same object is object for several minds, so far they are the same subject. So far as there is difference of subject there can not be identity of object. To the diffused undifferentiated object of early soul life corresponds a diffused undifferentiated subject, the differentiation of the subject proceeds *pari passu* with that of the object. By regarding the matter in this way we not only gain an apprehension of the *interdependence* of subject and object so as to see that there can be no subject without an object and no object without a subject, but we also learn to regard the subject side of Reality as an ideal construction equally with the object side, by doing thus we are entirely freed from the familiar difficulty of solipsism. I do not know my mind by experience simply and yours by inference simply. I, at least, so far as 'I' has definite import, and you subject to the same condition, are alike for me ideal constructions standing or falling together.

'I' arise in an experience which I then call 'mine' just in the same way as time or space or matter or indeed any other definite object of representation, whether present or absent, concrete or universal, material or immaterial, that is through the activity of a synthesising principle. All alike arise as, and all alike strictly speaking must ever remain, hypotheses, in principle at least, subject to correction. This is a direct and most vital consequence of the view adopted in this paper, and therefore I cannot insist too strongly upon it.

According then to the functional view the universe, matter and form together, is a system, a complete and therefore an exhaustive, an infinite, a self-conscious, a self-contained, a self-representative system.

Whenever within it is found independence, individuality, exclusiveness, uniqueness, isolation, the reason of these characters and their assignment to such and such points of the system must be sought in the inner necessity of the system itself, they and all other characteristics are functionally conferred.

Take as example the difference between ideal and real, consider how the idea of the inkpot now before your eyes differs from the thing itself and you will find the reason is

this, the idea is universal because ideal and ideal because incompletely determined, *i.e.* determined in an incomplete system, which, because incomplete, in turn is subordinate to an including system.

The real inkpot is completely determined and rests in its place in the ultimate system. The Real is real for no other reason than because it alone is *completely* ideal.[1]

I have already done something (Props. 1 and 2) towards proving by analysis the functional view, but I now propose to give another proof by synthesis.

Prop. III.—The Functional view is true, because it is incapable of being false, every possible adverse suggestion is not only consistent with it but is necessary to it, that is every such adverse suggestion far from contradicting the functional view is one of the subordinate functions necessary to its completeness and as such ministers to and supports it.

Just so one can imagine that given a full insight into circumstances one might see in a given case of conduct the only way to act, the only honourable thing to do might be something indefensible, according to all ordinary rules. The point of the illustration is that in the end *all* apparent exceptions to the functional view are instances of it.

Let us consider that no possible representation can have other characteristics than functional ones, which therefore will place it in its own *unique* place in the exhaustive functional system. The Character which seems to resist inclusion in the functional system, derives its whole strength and being, its character of resistance too, from that system.

For the present purpose, and as I think for all purposes actuality, present existence, with all its determination, if so be *here* in the time series and *here* in space, is a matter of content—is a characteristic of content, a quality like redness or pungency. A merely possible object differs in content from the same object as actual, just as triangular differs in content from square, and therefore just as the completion of the series of geometrical figures will give rise to triangularity as well as to squareness and then to triangles as well as to squares, so in the ultimate functional system there must be actuality as well as possibility and then individual actuals, with all their individuating principles and entourage of accidents.

[1] I may refer the reader to my two previous papers on this same subject. The first published in MIND (N.S., 61) under the title 'The Structure of Reality,' the second in the *Monist*, October, 1908, 'Id quo majus cogitari nequit'.

What is your objection to this syllogism demonstrating the content of the functional system by means of the idea of completeness—

A complete system must include everything

The functional system is a complete system—ergo

Perhaps you distinguish, saying

A complete system (if it exists) must include everything, adding that, from the fact that I have what I suppose to be the Idea of a complete system, it by no means follows that such a system exists without the mind.

I answer that a complete system with all that belongs to its completeness is incapable of not existing. For you cannot avoid this—that if the system were complete it would include this your doubt of its actual actuality. Your doubt is in fact a function of the complete system; one of its necessary elements.

But from (1) 'if the system existed this doubt would exist' to (2) 'this doubt exists, therefore the system exists' is a perfectly good and stringent inference.

This inference it will be seen is in the form—If A then B to If B then A. Take a complete system and as it were draw a line across it anywhere so as to divide it into two parts, A and B, then since the system A + B is complete, all that is not B is A, and all that is not A is B, then A and B are functions, each is not-the-other; each in the other's place would be that other, for they differ only by their systematic positions. Therefore the completement of each, that which follows from each, which fills up the gap in Reality left by the inclusion of either alone, is precisely the other.

To summarise this argument. If your doubt of the actual existence of a complete system does not stand between it and actual existence, then nothing stands between and it exists. But your doubt does not so stand, on the contrary regarded as standing alone it is precisely that last determination which confers actuality.

Prop. IV.—The functional system because of its completeness is eternally and perfectly self-conscious at the point and in the mode dictated by its nature.

As complete or perfect (which is the same thing) the functional system must possess itself, be for itself, be object to itself as subject, and this is self-consciousness. Moreover only by making it self-representative, containing itself within itself, which again is self-consciousness, can its infiniteness be conciliated with its individuality and completeness.

By repetition of the same reasons, it is necessary that the

self-consciousness of the functional system should be entirely concentrated at and vested in its Functional Absolute, God—the Absolute. Absoluteness like all else is a functional determination, the Absolute would be nothing apart from the relative, and plainly this relativity of the Absolute to the Relative, this dependence of the Absolute on the Relative is no prejudice to its Absoluteness.

The independent to be that needs something to be independent of, for this is part of the meaning of independence, and similarly the Absolute needs something to be above external relation to.

By maintaining this we do not in any way taint or dim the Aseity of God, nor do we even inchoatively give the Universe anything like a pluralistic or Federal Constitution by making God in some sense only the first among equals.

For us as for S. Bernard, God is

Purus, simplex, integer perfectus constans sibi.

There cannot be any ideal of a non-functional Absolute which should be as it were the Real thing, the standard which our Functional Absolute invites comparison with and is condemned by. The Functional Absolute is the Absolute Simpliciter. Philosophy is every bit as much concerned as Theology in maintaining the incommunicability of God.

In accordance also with our functional view, we say now that in the Perfection of God's Self-Knowledge there is involved the Perfect possession of Other-Knowledge. Knowing Himself as Super-Being Super-One super-measure, *i.e.* above all measure and degree, He knows also in the intimacy of its presentation in its full detail and individuality all possible other. We are tempted to think of God as possessing a sort of bird's-eye view of the universe like one would have of a landscape from a balloon, a chequer work of fields and hedges, little toy cottages with smoke coming from the chimneys, little dots of men working in the fields. Instead of this way of thinking we ought to think of God as having a magnified view of everything. Compared to His Eternal Knowledge my present knowledge of my sensations, the feel of my pen, the taste in my mouth is phantasmic and unreal.[1] Neither should we think of God as lacking any kind of experience, for though as S. Thomas says, *desit sibi sensitiva cognitio*, as such yet He possesses it '*Eminenter*'. He does not know the freshness of the morning only through our senses, as object He possesses in Himself all objectivity, and as subject all subjectivity

[1] God working in man is more intimately present in him than man is even in himself. (The Encyclical Pascendi, official translation, p. 23.)

including that of sensitive creatures. He knows in eternity not as excluded from knowing in time. He lacks nothing.

. . . . . .

We must now steer our course past one of the most dangerous rocks in all Philosophy by inquiring what is the relation between the Human or other finite intelligence and the Divine intelligence, and between the Human objects and the Divine objects. Also what is the corresponding relation between one human intelligence and another, and between the same human intelligence and itself when turned to different subjects or at different times.

I will here remark that the view which as I understand it is now held by Psychologists as to the structure of the mind, namely that it is an apperceptive system itself in some degree subordinate to a social consciousness and having other apperceptive systems subordinate to it,—the minds of the individual as it were on various subjects, seem to me to support very strongly the general functionalist view upheld in this essay.

For not only in this view is a mind regarded as a hierarchical system of ideas, a subsistent theory, not only is it shown as plainly a construction and not a datum, but for it the private mind of the individual enters as an element into a wider common-consciousness to which it stands in the same relation as the subordinate minds or apperceptive systems within it to itself. The whole process of the building up of a mind is presented as one of individuation by the differentiation of an original continuum.

A dictum of Aristotle's repeatedly used by S. Thomas, is that the knower and his knowledge are one, and the reader will see how entirely this harmonises with the view as to the absolute correlativity of subject and object maintained in this way.

But this view leads us as it led the scholastics straight up to a difficulty '*de Unitate Intellectus*'.

If the knower and his knowledge are one, then to one knowledge one knower. If the knowledge is absolute truth, then the knower is absolute mind. If the knowledge is universal, can the knower be individual and separate.[1]

Again, on the side of the object if being is univocal, we who know (some) being therefore know what God knows, our in-

[1] Licet enim intellectus meus sit individuus et separatus ab intellectu tuo, tamen secundum quod est individuus non habet universale in ipso et ideo non individuatur id quod est in intellectu—sic igitur universale ut universale est unique et semper idem omnino et idem in aminabus omnium non recipiens individuationem ab anima. (Albertus Magnus, quoted by Haureau, *Hist. de la Phil. Scoli*, p. 69. Vol. II.)

tellects are therefore so far indiscernible from His and since there can be no distinction without difference they are identical with His.

A Philosophy may be known by its difficulties; and a Philosophy which like the Scholastic found itself fighting for its life *de unitate intellectus* cannot have been the first artless systematisation of common-sense notions that Prof. James would have us believe it.

The intemperate use of the principle of excluded middle is, I believe, responsible for a great part of our speculative troubles. We tend to infer far too hastily the falsehood of one statement from the truth of some other. Everything must have some one and no more real taste, shape, smell, colour, texture, every statement must be either true or false, if it is not wholly, universally, absolutely true then it is not true, that is, it is false.

I think I hardly believe at all in inconceivables, incompossibles or intrinsic self-contradictions. In fact there is always some reference to context in what purport to be self-contained universal truths. Descartes chose the equivalence of the three interior angles of a triangle to two rights as one of those truths we cannot doubt and yet in non-Euclidean geometry we doubt it easily enough. How many of the painful crises of life arise from our having to choose between two right-wrong things. I am prepared to go further and to offer to replace the formula that a judgment cannot be true *if* it is false, by the formula that a judgment cannot be true *unless* it is false. A Real Judgment, judged in real life, not one of the simulcra we experiment with when reading Logic books, adjudicates something previously in doubt, is directed against some *prima facie* truth. If what it slays is a mere ghost, it, the slayer, is a ghost. Truth and falsehood are interdependent functions and the denial of a 'great error' is a great truth. A statement which is true when made in the midst of controversy and is therefore hotly denied, perishes of its success (as has often happened in theological controversies) if it succeeds so completely as to drive its adversary off the field.

There is always a need for His Majesty's opposition, if we are not to lose hold of some truth. This is not merely because we become lazy and forget the grounds of our Belief. It lies deeper and in the nature of truth. Correspondence *with* Reality is impossible unless the correspondents are different. The truth of a theory, the significance of its affirmation lies in this, that it *leads* to something, does not exhaust the subject and therefore in that it is *not* as it stands, as it is formulated, completely true.

Take for an example the Geocentric and Heliocentric astronomies. According to common sense if it is true that the earth moves round the sun which stands still, it is false that the sun moves round the earth which stands still. And yet Heliocentricism is but a half-truth though for astronomical purposes and for present day interests it is the larger half. If we treat it as wholly true it leads us to forget the relativity of motion. There is one aspect of the facts which can *only* be expressed by remembering the possibility of a Geocentric formulation. If this aspect is fully and vividly apprehended, it in turn will require for its full comprehension the apprehension of this aspect of it, *viz.*, that it is such as to have a tendency to exclude from Human Belief the Heliocentric formulation. Thus its falsehood, *i.e.*, its capacity for misleading, is part of its truth. Incompossibility is a question of mental grasp and compass. Different minds can support synthesis elaborated to different degrees, that which for a low synthesis is incompossible with some truth, becomes for a higher synthesis a complementary and confirmatory aspect of it.

Here is a rough pictorial illustration of the nature of error.

Given what ought at a given time and in given circumstances to be believed and supposing that the apperceptive rank of minds can be arranged in an ascending series, *a, b, c, d.* And that syntheses of the universe can be arranged in a corresponding series, A, B, C, D.

Then in each succeeding synthesis, propositions will appear as complementary which in the lower synthesis were contradictory.

To find out whether the truth of some particular proposition for a given man involves the falsehood of some one other proposition, see whether his mind is or is not of sufficiently high rank to contain the grade of synthesis which unites the two.

Further, in simple and in elastic minds at any rate, truth and error do not merely grow side by side like wheat and tares in a field, they are connected like the Siamese twins, kill the error and the truth will bleed to death.

A mentality is all of a piece, its error is as characteristic of it as its truth. *This* truth and *this* error ; *this* error and *this* truth, are reciprocally connected as necessarily within a given type of mentality as three sides and three angles, three angles and three sides are in Euclidean space. If A then B, if B then A.

Concepts are instruments—instruments *of knowing*, and as such they must be adapted to the apperceptive level of the mind which has to use them. Even in the intellectual life

an ambition is possible which overreaches itself and an acceptance of my 'station and its duties' needs to be preached.[1] If for example we try to think habitually *sub specie aeternitatis* the only result is that we lose our grasp on time, without gaining a grasp of eternity, if we are too proud to be anthropomorphic, we pay the penalty in dimmed apprehension of God's personality. Thus the problem of how much in the way of knowing to attempt is for each of us a practical one, a housewife's problem of laying out our mental capital to the best advantage, we may fail either by attempting too little, or by attempting too much universality. And surely danger lies on *both* sides, we have to balance the advantage of gaining so much universality against the practically consequent loss of so much vividness and intimacy of apprehension. Just in the same way too little struggle for existence as in the tropics harms men by enervating them, and too much struggle as in Arctic regions, harms them by crushing them down.

Please note that these are only illustrations, intentionally overstated, and that I do not believe either men, or ages, or circumstances to differ from each other to anything like the extent these illustrations seem to suggest, and that in particular I do not consent to the idea of an intellectual *élite*, believing one thing themselves and conniving at the common people believing another.[2]

Now what started us on this long discussion about truth and error, was that some scholastics did not see how if our eternal truths differ from God's, they can be anything but false, since God's truths are purely true. I think our discussion will have given the key to the problem, our best truths are only half or three quarters or it may be nine-tenths true. God's truths are wholly true, they end in vision and exhaust reality. *Scientia Dei est causa Rerum.*

I propose now in the interests of the main discussion, the discussion as to the relation of Finite and Infinite mind, to apply these views to the question which seems most refractory of all: that of the relation of time and eternity.

[1] Et sic fit ut, ad ea quae sunt notissima rerum noster intellectus se habeat, ut oculus noctuae ad solem, ut secundo *Metaphysicorum* dicitur. (S. Thomas, S.C.G., Book I., chap. xi.) We cannot bear too much light.

[2] I should like to emphasise at this point that I do believe in a synthesis appropriate to the man plane of mind! which differentiates men as a 'species' of knowers from such Beings as angels, in a far more fundamental way than individual differences differentiate one human individual from another. The man plane of mind is a conception I gained from Prof. Laurie's *Synthetica*, and the extent to which I shall have made the importance and the legitimacy of this conception felt will be to a large extent the measure of my success in this essay.

We humans are as deeply committed as it is possible to be to the non-coexistence of events succeeding one another in time, and only a considerable amount of schooling in philosophical thinking can render us able even to understand the possibility of doubting the reality of time, or of recognising in our concept 'time' the presence of hypothetical elements. Of events which succeed in time the condition of the coming into existence of the latter is the going out of existence of the former. Yesterday is past and over and God Himself cannot make it otherwise. Please note that we only evade the difficulty if we think of God merely as knowing the future certainly as we know it conjecturally. He is not in time. Events do not approach Him from the future, swirl past Him, and float away into the past. We are often tempted to think that it is futile to pray for something which either in itself or in its causes is determined before the prayer is prayed, *e.g.* the pregnant mother's prayer as to the sex of the child she bears within her. But God cannot so regard it as futile, for to His Eternal Will the prayer though coming in the time order after the event may still in the eternal order be the cause of His decreeing it to be so.

Imagine a circle with an inscribed Polygon of N. sides. The circle represents reality the goal of thought; the Polygon, the system of Ideas through which Reality is apprehended, then the Ideal system approximates to Reality in proportion to the number of side n-$2n$-$4n$ but can never coincide with it. Suppose further that the Polygon is actuated by some kind of spring which causes it, if left to itself, to lose contact with the circle at every other point, and then every other remaining point, so that if the sides were $4n$ at the moment of release they would pass through $4n$-$2n$-n.

For each of us the number of sides of our Polygon measures our apperceptive level at any moment.

Every one will have experience how this swells and shrinks, sometimes expanding and magnifying till one seems to be 'spectator of all time and of all existence,' sometimes shrinking into a painful blur in which we see men as trees walking, can apprehend and retain nothing. In the first state we have almost a foretaste of Eternity, events as they happen are received without jar into the places waiting for them. In the second state, for we are as much below the capacity of being surprised as in the first we are above it, we live the dull, hopeless, apathetic, momentary life of animals. The distance between our ideas and reality is thus measured by degree of apperceptive level; as the ideal expands, it expands towards the Real.

My second illustration is this. Take the circle as before: God as 'Subject-object' is the centre.

Suppose Radii, and then as it were move the centre outwards towards the circumference and let this represent a degradation of apperceptive level, in moving outwards and in still trying to synthesise the Radii, it as subject will undergo distortion and the correlative object will undergo an entirely parallel distortion; increasing in degree according to the distance moved from the true centre.

Return to the instance of time.

Eternity is for God what time is for us. Time is eternity seen through human eyes, as the mind shrinks in apperceptive level, its eternity becomes more and more compounded with absolute discontinuity. Time is the product of this composition. Placing for illustration—God—the Angels—Plato—the writer—a rustic—an animal—a stone in a descending series—we see the character of the duration change Eternity—Aevum—Time[1] time[2] time[3]—till at the animal, there only remains a flicker of the light of eternity to serve to make the darkness visible, at the stone this has given out and the darkness is extinguished with the light.[1]

We misinterpret our sentiments and do ourselves much injustice through taking too unrestricted a view of our immersion in time. Our interest in the future, in eternity and eternal interests, is *not* wholly dependent on there being a life beyond the grave. We are not wholly cut off from the future and the past; for the past is not wholly not now and the future is not wholly not yet.

It is useful practice to suppose that perhaps some day we may recognise in the time-hypothesis only a half truth. The facts it covers might be otherwise theorised.

We can imagine something similar in the case of space, though not so easily. Thus unity is the first attribute of God and extension with its impenetrability is a sort of compromise between being and nothing.

Thus I look out over a beautiful landscape and I see extended beauty; the extension a partially self-neutralising distortion of the self-possession of God; the beauty a partially self-neutralising distortion of His Glory.

I suppose the conatural worlds of finite subjects, their objects, their Gods, to be in their particularity distortion effects, depending on their distance from God, and all their field of consciousness to undergo a corresponding modification, in terms of distance from God, all to be marked as it

[1] On the fading away of time as knowledge increases, see Bosanquet, *Logic*, pp. 271-6 (vol. i.).

were with the same 'local sign'. What His essence is to God, that the material object is to us, the active Infinity of God, becomes for us mere unfinishedness infinite relativity, as in time, space, infinite divisibility of matter and so on, God's Intellectus which is His essence, withers down in us to discursive reason, blundering forward 'step by step'.

Our self-evident first principles are to the Divine Word in which God sees all things, like the last degenerate representative of a noble family—their chief remaining characteristic, obstinacy and pride. Our personality, our self-consciousness, our very being are mere shrunken shadows of His. In comparison with His Being and His Knowledge, we are not, know not.

Yet as S. Thomas says of the human mind, *remanet in re quædam Infinitas*—this is the analogous qualitative identity of each of our minds with a virtuality of the Divine mind, because of this we, each of us and God, know the same world and not a numerically different representation of it.

Thus we can see the whole World in terms of God. God is the Absolute synthesis. He unites for Himself absolute unity with the exhaustion of every possible degree and variation of negativity. Every fleeting appearance is in its possibility necessary to God. He stands to the world in a Relation of irrelativity. He is the Absolute—the Absolute of the Relative. Finitude contributes to His Aseity; He as it were makes His enemies His footstool.

Thus appearance in all its modes is not as Mr. Bradley's work suggests an effect of '*imaginatio*,' it is in its place as real as reality, they live with the same life.

We have not to choose between the intelligible world as a kind of cold ballet of bloodless categories and this kind warm earth with its life of daily hopes and fears, its solidities and opacities, its abruptnesses and contingencies.

Our America is here—our common Daily Life Divine. The ideal in the sensible is for us that primary and supporting Real, which God is for Himself. By placing it at the heart of our knowledge, by accepting it as our primary real, we know as God in our place, and this is what I want to make the moral and the conclusion of this essay. The world, matter and form, is reason throughout; let us therefore trust our Reason and fear not illusion, for the deliverances of our Reason are the content of the Eternal Reason at the man plane of mind.[1]

[1] P. Rousselot's *Intellectualisme de S. Thomas* shows very strikingly how great the gulf is which in Thomist Philosophy separates Divine from Human intellection. S. Thomas as interpreted by Dr. Rousselot is really an Idealist of Hegelian TYPE. To this interpretation I humbly subscribe.

III.—PROF. BERGSON ON TIME AND FREE WILL.

By D. Balsillie.

The feature in Prof. Bergson's contribution to the philosophy of experience which distinguishes it fundamentally from the views of previous thinkers, is his new conception of time as concrete time, or what he calls Duration. It would be difficult to frame a definition of the term which would give a clear idea of the precise meaning in which it is used by the author. Those who are most conversant with his works say that one must gradually live into his mode of philosophising: and indeed it almost seems to be "legible only by the light it gives". The author himself laments the inadequacy of language to express reality from the point of view he claims to have reached, and warns his readers of the necessity of making a vigorous effort of introspection if they would verify for themselves the contents of his system. Perhaps in this he does scanty justice to his quite remarkable gift of style, which leaves nothing to be desired in the exposition and illustration of his thought. If the literary quality of his writings have a fascination for the reader on a first perusal, there is a deeper fascination in the freshness of his conceptions, the nimbleness of his reasonings, and especially in the gradual maturation of his views in the three volumes in which these are given to the world. Ground is broken in the "new philosophy" in the volume dealing with the problem of the freedom of the will; and it was doubtless in pondering that problem that the author became convinced of the possibility of gaining an intuition of consciousness "in the making". He makes no profession of giving a theory of free will. On the contrary, he believes that any attempt to do so, or even to define free volition, would inevitably result in determinism of the will. But he holds that free volition is an indisputable *datum* of consciousness; and he essays to prove that his new conception of Duration as the reality of consciousness, is adequate to furnish a complete refutation of psychological determinism, on which, he says, the other forms of determinism are ultimately grounded.

The centre of gravity of the volume on *Time and Free Will* (the more appropriate title given to *Les Données immédiates de la Conscience* in the English translation) is accordingly the part that contains the exposition of the principle of Duration. The rest of the volume is an application of that principle to expose the errors of the determinist theory of the will, as being due to a wrong conception of the psychic process. The two piles on which the Bergsonian system is supported are his principle of Duration and his view that consciousness has a practical destination in view of our needs and activities. He traces the antagonisms of previous systems of philosophy to the misleading postulate, as he calls it, that consciousness is of exclusively speculative import. In a discussion of the notion of the intensity of psychic states, he controverts the method and results of psycho-physics as resting on the mistaken view that sensations are magnitudes. The qualitative conception of psychic phenomena takes the place of the quantitative conception, on which the author considers the theory of the association of ideas to be based; and by his principle of Duration the subjection of those deep-seated states of consciousness, which constitute in their organic unity our real personality, to the empirical form of causality, the only form recognised by the author, is pronounced to be an inconceivability.

Prof. Bergson's method, intuitive though he claims it to be, has yielded in three moderate-sized volumes a richer crop of speculation than usually comes up in such limited space. His first volume, although not professing quite so much, really offers a new theory of the Will, as well as a new method of philosophising. His second volume, *Matière et Mémoire*, points the way to a new theory of Psychology. His third volume contains a new theory of Evolution. If all three are found to be true in their foundation and superstructure, they should mark a new epoch in the highest intellectual pursuits. Whether or not he has given the world a revelation of philosophic truth which has been hidden from the ages, there are at least delight and discipline to be got in tracing the evolution of his thought through its successive phases. There are distinct traces of growth, and not a few modifications of fundamental conceptions. The first necessity for getting into touch with his train of thought is to follow the track of the genesis of his conception of Duration. Fortunately, he has made generous use of his faculty of illustration to aid those of his readers who may not be able to emulate his own "vigorous effort of introspection".

The succession of our inner states is likened to "the notes

of a tune melting, so to speak, into one another. Might it not be said that, even if these notes succeed one another, yet we perceive them in one another, and that their totality may be compared to a living being whose parts, although distinct, permeate one another just because they are so closely connected? The proof is that, if we interrupt the rhythm by dwelling longer than is right on one note of the tune, it is not its exaggerated length, as length, which will warn us of our mistake, but the qualitative change thereby caused in the whole of the musical phrase." But if the permeation is due to the closeness of connexion, should not permeation reach perfection when the notes are heard simultaneously? What would then become of the musical phrase? The unity in which the notes would merge would be one in which musical quality would disappear, and only a discordant sound would be heard. In the notes there is succession, but not without distinction; if there is not discreteness, there is at least qualitative distinction; and if there is qualitative distinction between the states of consciousness, how could one of them represent the whole? Each state must resemble more a Leibnitzian monad than a note of a tune, since one note cannot represent the whole notes of the phrase. This illustration rather raises difficulties than assists comprehension. Can there be succession without distinction? If qualitative distinction is allowed, how can one state represent the whole without some kind of pre-established harmony?

We are told that if we listen to the ticks of a pendulum without counting them, we can tell when a minute has passed. The ticks are said to organise themselves like the notes of a tune, permeating each other so as to form a continuous multiplicity of a qualitative kind which has no resemblance to number. We thus get the image of pure duration, and get entirely rid of the idea of a homogeneous medium or a measurable quantity. If the reader makes the experiment, he will probably find that he can make a rough guess when a minute has passed, but that he has had no perception or sensation of the ticks melting into each other, and organising themselves like the notes of a tune. If he reflects on the phenomena, he may come to a clearer conviction than he had before of the necessity of a homogeneous background to the multiplicity of the ticks. The author goes on to say, "When the regular oscillations of the pendulum make us sleepy, is it the last sound heard, the last movement perceived, which produces this effect? No, undoubtedly not, for why then should not the first have done the same? Is it the recollec-

tion of the preceding sounds or movements, set in juxtaposition to the last one? But this same recollection, if it is later on set in juxtaposition to a single sound or movement, will remain without effect. Hence we must admit that the sounds combined with one another and acted, not by their quantity, as quantity, but by the quality which their quantity exhibited, *i.e.*, by the rhythmic organisation of the whole." Is it not rather the monotony of the identical sounds, without any rhythmic organisation, which at once wearies the auditory organs by their sameness, and lacks interest to keep awake attention? If rhythmic quality lulled to sleep, the notes of a piano heard in our bedroom should be a boon. Experience proves the contrary. The author says that if the sensation remained always the same, it would continue to be indefinitely slight and indefinitely bearable. Precisely; so slight and bearable that it ceases to make any impression on our sensibility, jaded with monotony, and we fall peacefully asleep. It is the author's opinion, however, that "we consider it to be always the same sensation, because we think, not of the sensation itself, but of its objective cause, situated in space". If when we are wide awake, we cannot detect any melting of the ticks into each other so as to form a rhythmic organisation, we are not likely to observe it when we are falling asleep.

The above may serve as a sample of the kind of illustrations that are given. The effect of them is to leave a suspicion that the author has pushed too far his principle of Duration; that there is not such complete mutual permeation of states as makes separation of any one of them from the whole impossible except to abstract thought. And that suspicion is strengthened when we find that a distinct separation takes place between what are called superficial states and deep-seated states. It is not a mere separation by abstract thought, for that would leave the unity of the two sets of states unaffected in reality. The separation is so radical that the deep-seated states are said to form by mutual permeation the organic unity which is the real personality, the seat of free will; whereas the superficial states are subject to the law of the association of ideas. So deep is the severance that he speaks of two selves in each person, the real or fundamental Self which is free, and the superficial self, which is under the law of necessity. Facts must have weighed heavily against theory, since he neglected an evident means of escape from such an awkward dualism. He had said in his definition of Duration that any state, even the simplest, may represent the whole. Elsewhere he says that "in the simplest of them

the whole soul can be reflected" (p. 98). The isolated state, or any isolated group of states, would then be the whole personality, and when it manifested itself in action, it would be the person determining himself. Such a view would have been more in conformity with commonsense belief, and more in harmony with the author's own opinion elsewhere expressed, that there are degrees of freedom. But no degrees are admitted between the determinate volition of the superficial self and the free volition of the fundamental self.

To understand and estimate the author's account of how this vital severance is effected, it will be necessary to trace his views, as given in *Time and Free Will*, regarding space, homogeneous time, and number in relation to space. In this volume his idea of space oscillates between an intuition of an external reality and an act or conception of the mind. Thus in one place he says, "Our senses perceive the qualities of bodies and space along with them". And on the next page he says that "Kant, far from shaking our faith in the reality of space, has shown what it actually means, and has even justified it". On a later page we read, "We have assumed the existence of a homogeneous space and, with Kant, distinguished this space from the matter which fills it. With him we have admitted that homogeneous space is 'a form of our sensibility,' and we understand by this simply that other minds, *e.g.* those of animals, although they perceive objects, do not distinguish them so clearly either from one another or from themselves." And this is followed immediately by the statement that "space is an intuition of a homogeneous medium peculiar to man". Again he says, "There is a real space, without duration, in which phenomena appear and disappear simultaneously with our states of consciousness. There is a real duration, the heterogeneous moments of which permeate each other. . . . The comparison of these two realities gives rise to a symbolical representation of duration, derived from space." In this passage he seems to ascribe a reality to space which he virtually denies to objects in space, in calling them phenomena which appear and disappear. Another statement is closely akin to the foregoing. "We have to do," he says, "with two kinds of reality, the one heterogeneous, that of sensible qualities; the other homogeneous, namely space." On the other hand, he defines space as "a unique act of the mind . . . the intuition, or rather the conception of an empty homogeneous medium. It is scarcely possible to give any other definition of space." Perhaps he comes nearest the truth when he calls it "a kind of reaction against the heterogeneity which is the very ground

of our experience". And, in accordance with this last view, he adds that, "if space is to be defined as the homogeneous, it seems that inversely every homogeneous and unbounded medium will be space".

The reduction of time to space is of vital importance for the author's way of accounting for the severance between superficial and deep-seated states. It will be seen that he then uses space in a double sense, first as an external reality in which real objects are juxtaposed, and then as the ideal homogeneous medium in which we become habituated to set out the psychic states in reflective thinking. Our necessary converse with space and objects in space as external realities, creates in us the habit of thinking in space as a homogeneous medium. He thus blemishes his system with another gratuitous dualism: space is both an external reality and the empirically generated form of the inner sense. He had a glimpse of the truth when he spoke of space as a kind of reaction against heterogeneity. Homogeneity and heterogeneity are correlative notions. It is only as against the background of a homogeneous medium that we can conceive the discrete multiplicity of objects in external nature, or the succession of inner states. Space and time are two different aspects of the same fundamental form of thought, named differently as being applied to different fields of experience.

But the "growing Ego" can only be made capable of bearing the double load of its twin progeny by the reduction of the homogeneous medium of the inner sense to space. Are there any valid reasons for doing so? The author, resting on his theory of consciousness as pure heterogeneity, says "it may be surmised that time, conceived under the form of a homogeneous medium, is some spurious concept, due to the trespassing of the idea of space upon the field of pure consciousness. At any rate, we cannot finally admit two forms of the homogeneous, time and space, without first seeking whether one of them cannot be reduced to the other. Now, externality is the distinguishing mark of things which occupy space, while states of consciousness are not essentially external to each other, and become so only by being spread out in time regarded as a homogeneous medium. If then, one of these two supposed forms of the homogeneous is derived from the other, we can surmise *a priori* that the idea of space is the fundamental datum. . . . Time is nothing but the ghost of space haunting the reflective consciousness."

Some grounds *a posteriori* are also sought for exorcising this ghost of space. The illusion that time is a measurable quantity gets support from the belief that as such it "enters

into the formulæ of mechanics, into the calculations of the astronomer, and even of the physicist". Science, however, deals only with simultaneities, and can take account of time only on condition of eliminating its essential quality of duration. We can admit all that without assenting to his view that time as the form of our inner sense is a "spurious concept". Science, as *Naturwissenschaft*, deals with external phenomena, and does not usurp the function of psychology. That is why in treatises on mechanics there is "no definition given of duration". But since there is given in them the definition of "the equality of two intervals of time," it is plain that time is not ignored in mechanics. The author makes a distinction between space and extensity. He ought, therefore, to eliminate space also from the definitions and calculations of science. Space as homogeneous medium is as little measurable as time. Extended objects are measurable, but not the boundless homogeneity of a mental concept; and the author, by distinguishing between space and extensity, makes the former as truly a mental concept as time. Both are present as forms of thought in the scientific study of nature.

The omission or arbitrary contraction of time in the equations of the astronomer is easily accounted for. When he calculates the period of a solar or lunar eclipse he is said to contract the time at his pleasure; that he may even neglect consideration of time altogether without injury to his equations. No doubt the equations would stand good mathematically. But if he may contract the time indefinitely, may he also expand it indefinitely? He might assume an interval of time so great that his prediction of the eclipse would be falsified by a change of conditions in the solar system. The omission or contraction of time in his equations is owing to his confidence in the uniformity of nature, that there will be no such change in its conditions as would falsify his calculations. There is no arbitrary treatment of time in the example given of the calculation of velocity. The interval covered by the falling of the stone is taken as a definite unit of time, just as the extensity traversed during that interval by the moving object is taken as a definite unit of space or extensity; and the simultaneities which interest the scientist are those between the units of time as defined by the falling stone, and the units of extensity as measured by the moving object.

However, the author, being now satisfied on both *a priori* and *a posteriori* grounds that time is a spurious concept, is free to show how the twinship of the two selves has been begotten

by the trespassing of the idea of space upon the field of pure consciousness. Hitherto he has been faithful to the solidarity of Duration. We have had in abstract form what must be deemed his definition of it, in which he represents the growing Ego as an organic unity, "in the making," of states which so permeate each other that no one of them can be separated from the whole except by abstract thought. In the illustrations the simplest states of consciousness, the notes of a tune, the ticks of a pendulum, the strokes of a clock, the blows of a hammer, melt into each other, form a continuous or qualitative multiplicity, and give us the image of pure Duration. Now, we find that there are two very different ways of regarding duration, two aspects of conscious life. "A close psychological analysis reveals below homogeneous duration" . . . [that 'spurious concept' which is really space] . . . "a real duration whose heterogeneous moments permeate each other; below the numerical multiplicity of conscious states, a qualitative multiplicity; below the Self with well-defined states, a Self in which *succeeding each other* means *melting into one another* and forming an organic whole." The former of these two aspects of conscious life he holds to be only the shadow of the real Self "projected into homogeneous space". "The Self thus refracted and thereby broken to pieces is much better adapted to the requirements of social life in general and language in particular; consciousness prefers it, and gradually loses sight of the fundamental Self." Consciousness is "goaded by an insatiable desire to separate," which springs from our needs and the requirements of social life. It "substitutes the symbol for the reality, or perceives the reality only through the symbol". The projection of our psychic states into space in order to form a discrete multiplicity is likely to influence these states themselves, and to give them in reflective consciousness a new form, which immediate perception did not attribute to them. The vigorous effort of analysis which is necessary to distinguish the fluid continuity of our inner states from their image, first refracted and then solidified in homogeneous space, is thus a return to immediate perception, as it was before consciousness was "sophisticated" by the goading of our needs and the requirements of social life. It is an acquired habit of thinking by symbolical representation, which has broken to pieces the Self for reflective consciousness. Our thoughts, in consequence of our needs, are occupied for the most part with the relations between material objects in space, and these interest us far more than the inner mental reality. There is a kind of "endosmosis" be-

tween our psychic states and the external realities. Objects, through our familiarity with them, become crusted over with our feelings, and assume variable aspects to the same person at different times, nor are they ever quite the same to different persons. Inversely, the quantitative multiplicity of external objects insensibly steals into our conception of the qualitative multiplicity of our psychic states. These become for our reflective consciousness a discrete multiplicity, and float solid on the surface of consciousness. Language comes in as a potent agent in completing their solidification. It strips off the psychic states the special characteristics which they have in individual experience, and changes them from living process to stereotyped thingness. Thus by the combined influence of external objects and language, our superficial states become an easy prey for the associational theory of volition. Their quality becomes a measurable quantity. As a discrete multiplicity they are amenable to the law of causality. And so the "growing Ego" has severed itself into the dualism of the superficial Ego and the fundamental Ego.

The superficial Ego, however, is a mere illusion, the creature of habit. States which are projected into space by our predominant interest in the relations of external objects, and solidified there by the inadequateness of language to express reality, are not thereby changed in their own nature. If to immediate perception they were an organic unity of states permeating one another, and if they are again seen to be so by a vigorous effort of introspection, what reason is there for handing them over to the associationist, and for saying that in our lives we "are acted" rather than act ourselves? That is treason to his ruling principle of Duration. He had said that the simplest state may represent the whole, may "fill the whole soul," and that even when a single state is manifested in action, it is the person determining himself. Why not, then, to save the consistency of his system, adopt the hypothesis of degrees of freedom, and avoid the absurdity of making the growing Ego a Siamese twinship?

If thinking by what the author calls symbolical representation in a homogeneous medium is a habit generated by our needs, it is a blunder to make any of our psychic states amenable to determinism. If it is necessitated by our mental constitution, his principle of Duration cannot be accepted as a correct representation of conscious life. Either he is wrong in yielding an inch of ground in consciousness to the associationist, or his conception of Duration must be pronounced to be an illusion. There is no escape from one or other of these conclusions. The question comes to be which of them

is most consistent with facts. In the author's genesis of the notion of number, he shows that the units must *necessarily* be set side by side in a homogeneous medium, and the only one at his disposal is ideal space. Number implies an intuition of terms. If they form an organic unity, they cannot yield the notion of number. If they remain distinct, they are in juxtaposition, and we are dealing with space. "The process," he says, "by which we count units and make them into a discrete multiplicity has two sides: on the one side we assume that they are identical, which is conceivable only on condition that these units are ranged alongside each other in a homogeneous medium: but on the other hand the third unit, for example, when added to the other two, alters the nature, the appearance, and, as it were, the rhythm of the whole; without this interpenetration and this, so to speak, qualitative progress, no addition would be possible. Hence it is through the quality of quantity that we form the idea of quantity without quality." Again he says, "if we did not already localise number in space, science would certainly not succeed in making us transport it thither. *From the beginning therefore* [italics mine] we must have thought of number as of a juxtaposition in space." In the case of number, therefore, the author allows that a notion "is not conceivable" unless against a background of a homogeneous medium. Duration and homogeneity are reconciled to their mutual benefit, and we seem to be furnished with a schema for a necessary mode of symbolical representation of psychic states generally.

M. Bergson draws a distinction between knowledge of things "as made," and knowledge of things "in the making". A conscious state "as made" is a mere thing, a stereotyped image; one "in the making" is a living active process, and can be known, he says, by a vigorous effort of introspection. A difficulty is met here in our unit of duration. Take a sensation, say of colour, and consider how impossible it is to get an intuition of it in the making. The process by which it is generated, if it is generated at all in the mind, must be by trillions of differential sensations corresponding to the trillions of vibrations which are the external cause of them. The intuition would become barely possible if to us a thousand years were as one day or one hour. In *Matière et Mémoire* it is said that "every concrete perception, however short it may be, is a synthesis of an infinity of pure perceptions which succeed each other". Such, on the author's own authority, is a conscious state in the making. How is an intuition of the process possible with our unit of duration?

The necessary conclusion seems to be that the process is in the external cause, and the sensation is not a process at all, but rather a representation or image of the process focussed on consciousness by our unit of duration.

Another difficulty makes one hesitate to accept in its stringency the principle of Duration. When we try to think the present, it has already become the past. The object of introspection at that moment must be states as made. They are no more in living process, permeating each other. It is quite legitimate, the author allows, to treat past states as a discrete multiplicity. We incline to suppose that we necessarily do so, and that we cannot have introspective knowledge in any other form. We have seen reason to suppose that a psychic state is rather an image or a representation of the result of a process than a process itself; and on that view, without denying the continuity of consciousness, mutual permeation of states is not conceivable. On the author's view it is just as inconceivable between past states as dead stereotyped things and present states, living and active as he conceives them. Besides, what need would there be for memory on the author's theory that past states enrich the present by permeation? Memory would be an unnecessary and cumbrous duplicate. We should have an intuitive understanding. Reflexion would be a superfluity. For the Professor, who considers that perception always tends to complete itself in action, perception should pass so immediately into action as to render us conscious automata.

Let it be granted that we can have no intuition of psychic states in the making; that only past states, *i.e.* states as made, can be objects to our thought; that these past states must be thought as a discrete multiplicity; that they can only, therefore, be cognised in or against a homogeneous medium; and symbolical representation of them in a homogeneous medium is necessary if we are to think them at all. That the medium chosen is usually ideal space rather than time, is because an ideal visual perception, from its clearness and distinctness, is the best aid to intellectual processes. Still, even if the author consented to relax the stringency of his principle of Duration, he would not necessarily have to surrender the superficial Self to determinism. He would, as we have said, have the conception of degrees of freedom to fall back upon; although doubtless the inconsistency between surrender to determinism and a relaxed conception of duration, would not be so glaring as between the surrender and adherence to his sovereign principle of duration in all its stringency.

We have still to consider how far the author's theory of the growing Ego, even in its aspect as the fundamental Self, can bear the burden of a thorough refutation of the determinism of the will. He makes no attempt to frame a theory of free volition, and indeed from his presuppositions it would probably be impossible to do so. He acknowledges that the very attempt to define or explain free volition inevitably results in determinism; and he contents himself with regarding the freedom of the will as an indubitable datum of consciousness. It is questionable whether, regarded as a manifestation of the fundamental aspect of the growing Ego, it is not as amenable to the law of causality as it was to Kant in the *Critique*, and as it is to the associationist.

Nothing but assent to its truth, and praise of the mode of treatment, are due to his chapter on the intensity of psychic states. If the associationist theory of the will rested on the quantitative character of conscious states, he would have demolished it as completely as he demolishes the psychophysical method and results of Delboeuf and Fechner. But it is not evident that psychic states as qualitative are less usable by the associationist than states as quantitative. The associationist does not regard one state as determining another because it is greater in quantity than the other. If he speaks of one motive being stronger than another, he does not necessarily conceive them as quantitative. The strength of the motive may reside in its quality. For the associationist, causal relations between states are from their resemblance to each other or from their contiguity in experience, and they would not less resemble each other or be less contiguous because they were qualitative rather than quantitative. There is psychological value in the chapter on intensity; but it does not seem to have any bearing on the problem of the freedom of the will.

The value of Prof. Bergson's refutation of determinism depends on the efficiency of his principle of Duration in the organisation of conscious states, and on the assumption that the empirical conception of causality is the true one. For although the determinist sometimes rests his case on the principles of mechanical science, the author undertakes to show that physical determinism is reducible to psychological determinism. There is, he thinks, what may be called an *a priori* reason for the two opposing views of the nature of volition: the determinist view being grounded on a mechanical conception of the relations of things, and the belief in freedom of the will being natural to those whose tendency is to a dynamical conception of them. Dynamism starts from

the idea of voluntary activity; mechanism starts from the assumption of necessary laws, and "never escapes from the narrow circle of necessity however rich and difficult to foresee the combinations may be which it reaches".

The *a priori* form of determinism which, as the author thinks, rests on a mechanistic *weltanschauung*, may be called metaphysical determinism; and no doubt Prof. Bergson would identify with it Kant's teaching in the *Critique*, that without the relation of causality we should have only incoherent subjective states. But he pays no further attention to the metaphysical form of determinism even when he proceeds to the analysis of the notion of causality. As a true dynamist, he deals mainly with the facts, some physical, and some psychological, which are marshalled against freedom.

Physical determinism grounds on the molecular theory of matter and the mechanical theory of the conservation of energy. The molecular theory reduces all physical phenomena to elementary movements of molecules or atoms, sometimes of vibration, sometimes of translation. The matter of all organised bodies being subject to the same laws, the nervous system consists only of molecules and atoms which attract and repel each other. Hence at a given moment the molecular state of the brain is modified by shocks which the nervous system receives from surrounding matter; sensations, feelings and ideas can be deduced as mechanical resultants of shocks received from without compounded with molecular movements in the nervous substance. And the reaction of our organism on its environment through similar molecular movements outwards, accounts for reflex movements and our so-called free and voluntary actions. It is assumed that by the principle of the conservation of energy which reigns in the whole universe, and therefore in our nervous system, the position of every atom in the universe is determined by the action of all other atoms upon it; so that if the mathematician knew at a given moment the position of the atoms of a human organism, and the position of all the other atoms in the universe "capable of influencing them," he could calculate our past, present and future actions with as much certainty as astronomical phenomena are predicted.

Prof. Bergson's first point of objection to this form of determinism is that, even granting that physiological and nervous phenomena are necessitated, it does not follow that conscious states must be necessitated. We have no ground for holding that view unless we can prove a necessary connexion between conscious states and cerebral states. There

is indeed a parallelism between the physiological series and the psychological series in a fair number of cases: but "to extend this parallelism to the series themselves in their totality, is to settle *a priori* the problem of freedom. . . . We do not prove and we never shall prove by any reasoning that the psychic fact is fatally determined by the molecular movement." A movement may be the cause of another movement, but not of a conscious state. In the limited number of cases in which there is unvarying parallelism between physical states and mental states, the facts are confessedly almost independent of the will.

If, however, the conservation of energy must be regarded as a law universally valid, freedom of the will would have a limited range. M. Bergson questions its universal validity, and thinks that its service to science is overrated. There was progress in scientific discovery before it was thought of. Leibnitz's *vis viva* took the place of Descartes's idea of the conservation of a fixed quantity of motion in the universe, and the *vis viva* has been followed by the mechanistic conception of the conservation of energy, which means "at bottom," that "the universe is composed of material points subject solely to forces of attraction and repulsion arising from the points themselves, and possessing intensities which depend only on their distances". There is surely a premonition of *L'Évolution Créatrice* in the following passage: "No one can tell whether the study of physiological phenomena in general, and of nervous phenomena in particular, will not reveal to us, besides the *vis viva* of which Leibnitz spoke, and the potential energy which was a later and necessary adjunct, some new kind of energy which may differ from the other two by rebelling against calculation". That the author had in view some higher development of his principle of Duration, appears from another passage which follows close after the former: "The instinctive, though vague belief of mankind in the conservation of a fixed quantity of matter, a fixed quantity of energy, perhaps has its root in the very fact that inert matter does not seem to endure or to preserve any trace of past time. But this is not the case in the realm of life. Here duration certainly seems to act like a cause."

The law of the conservation of energy is wrongly stated by Prof. Bergson. He says it can only have validity for a system in which the points can return to their former positions. It has nothing whatever to do with relations between points and positions except with reference to the difference between potential energy and kinetic energy. The energy in

every material system varies by the system parting with it to others, or receiving it from them. All forms of energy tend to take finally the form of heat, and hence the law of the Dissipation or Degradation of energy; since so far as known, there can be no retransformation from heat equally diffused in the universe to any other form. The two laws, taken in conjunction as they must be, are therefore more closely analogous to the author's theory of the irreversible psychic process than he seems to suppose. They as little imply the return of points to their former position as he admits the recurrence of the same motive in consciousness when his attention is confined to Duration as operative in the fundamental Self. We shall see presently that this objection is only valid on the presupposition of the empirical conception of causality. From that point of view a sufficient refutation of physical determinism was given, when it was shown that no such invariable connexion between cerebral states and psychic states has been discovered as would prove a causal relation between them. The want of such proof, the author thinks, cannot be ignored; and he concludes from that, that physical determinism must be grounded on, and therefore be reducible to, psychological determinism. The two forms then give support to each other. Psychological determinism gets a geometrical character and stricter form from the mechanism of physical determinism; and the principles on which the latter is based are made universally valid by the phenomena of consciousness being brought under the law of causality.

Psychological determinism is traced to the acquired habit of representing states of consciousness symbolically in space. They are then conceived as a discrete multiplicity, and their continuity is explained by a causal relation between past and present states; whereas on the author's theory continuity is explained by the interpermeation of states. There is allowed to be some relation which explains how one state of consciousness passes into a new state. But is this relation the cause of the transition? To answer this question the author has again recourse to illustration. The passage must be quoted in full. "In resuming a conversation which had been interrupted for a few moments we have happened to notice that both we ourselves and our friend were thinking of some new object at the same time. The reason is, it will be said, that each has followed up for his own part the natural development of the idea at which the conversation had stopped: the same series of associations has been formed on both sides. No doubt this interpretation holds good in a

fairly large number of cases; careful inquiry, however, has led us to an unexpected result. It is a fact that the two speakers do connect the new subject of conversation with the former one: they will even point out the intervening ideas; but, curiously enough, they will not always connect the new idea, which they have both reached, with the same point of the preceding conversation, and the two series of intervening associations may be quite different. What are we to conclude from this, if not that this common idea is due to an unknown cause—perhaps to some physical influence—and that, in order to justify its emergence, it has called forth a series of antecedents which explain it and which seem to be its cause, but are really its effect?"

In the first place, there is here an avowal of an actual causal relation which, for a reason to be stated immediately, would certainly escape the observation of the associationist. But it is no refutation of associationism to show that there are causal relations which escape observation. If the fact is allowed, whether it can be observed in all cases or not, the association conception of mind is saved. Here the common idea is said to have called forth the two series of antecedent states which preceded it: a cause has been preceded by its effects. But it is possible to explain the facts in other ways less startling. The common idea may have been a mere coincidence: it may have been caused in both persons by a momentary reversion in memory to some point in their previous conversation: or the physical influence may have been the cause of the two trains of ideas antecedent to the common idea. Any of these ways is surely preferable to supposing that a cause may be preceded by its effects. The author, however, prefers to assume that the common idea, not yet existent, produced the antecedent states as the explanation of itself. He certainly does not say, and does not intend to say, that he and his friend merely imagined the series of antecedents as an explanation of the common idea. We shall see shortly to what an extreme his principle of Duration is forced by this assertion that a cause may follow its effect.

Another illustration is given from hypnotic suggestion, which may be briefly summarised. The patient when in the hypnotic state is told to perform a certain action at a certain time. Without having any knowledge that the command has been given to him, he, when in his natural condition, passes through a series of states, and when the appointed time comes, duly performs the action, and explains it as being connected causally with his antecedent

states. In this case also, the author affirms that the action performed was the cause and the antecedent states were its effects; there is said to have been "willing for willing's sake," and the act was "left to be explained by antecedents of which it has really been the cause". Would it not be more reasonable to say that the action was caused by the suggestion given, and that any connexion between it and the antecedent states was an illusion; or why should not the suggestion have started the train of ideas that led to the act? What is to be understood by "willing for willing's sake" appears from the context. We often weigh motives after we have actually decided what our action is to be. In that way we seek to explain or to justify an action which we wish to believe has proceeded from some other motive than the real one. The action may, on the author's theory, be a manifestation of the personality: but it seems that we make a point of safe-guarding the principle of mechanism, and of conforming to the laws of the association of ideas. The mind foresees the abrupt intervention of the will, and "tries to legitimate it beforehand by a formal deliberation". But there is no analogy between that process and the two illustrations. There was neither foresight of the common idea in the one, nor foresight of the hypnotic patient's act in the other. In both there is said to be effect actually preceding cause in a way it does not do in "willing for willing's sake," as described in the context. And not only is there recognition of real causal relation; there is recognition of it in a form which reveals the far-reaching influence of the principle of Duration. We are told on the next page that "a more attentive psychology sometimes reveals to us effects which precede their causes, and phenomena of psychic attraction which elude the known laws of the association of ideas". They do not, however, elude the grasp of Duration. If in conscious life effects ever precede their causes, a state not yet existent may influence a present state. The phenomenon cannot be explained otherwise than by the mutual permeation of present and future states. Permeation not only enriches our present by our past: it also influences our present by our future. The distinction between past, present, and future disappears, and our author virtually assents to the views of certain Neo-Hegelians, that beneath our finite form of consciousness there is a real mental life in an eternal present, which a more attentive psychology can reach. If it is once allowed that effect may precede its cause by any interval however short, there is no reason why the interval may not be indefinitely extended. Then homogeneous

time is effectually got rid of, and our whole life becomes a simultaneity.

There is by the author's acknowledgment mutual permeation of states, even the simplest, everywhere to baffle the associationist in his quest of causal relations. It is found between such a simple idea as that of opening a window and that of the movement made to do so. If the person, on rising, forgets what he intended to do, he has only to think of the idea of the movement he has made, to see or feel the idea of opening the window prefigured in it. The same movement would have had a different "colouring" to his consciousness if he had intended to do something else than open the window. The associationist would have seen no new colouring in the idea of the movement this time, but only its association with the idea of a new end. Similarly, the scent of a rose is permeated with recollections of childhood, and smells differently to different persons. Permeation in this case is also ignored by the associationist, and he ascribes the different personal impressions of rose-scent to different associations connected with it. The author "breathes-in the recollections with the very scent: it means all that" to him.

What can those superficial states be then for which the associationist theory is fitted, if they are not such simple states as these? Those which that theory fits are said to be impersonal. But who ever had an impersonal sensation or an impersonal state of consciousness of any kind? My sensation or other state may to another person be stripped bare of its personal characteristics when I try vainly to describe it to him in words, but it is never impersonal to myself; and it is the relation between my states and my actions which have to be explained, and not the relation between my actions and the aspect of my states when they are imperfectly expressed in words. The author finds a personal colouring in the simplest sensations. He says associationism does away with it, and retains only the geometrical and impersonal element. Yet he hands over to the associationist the bulk of our experience, and reserves for free will only the deep-seated states. That is surely glaringly inconsistent with the principle of Duration as defined by him and set forth in his illustrations. If he tries to justify his surrender of the superficial states by alleging that they may recur so as to be amenable to the empirical law of causality, *i.e.* that the same cause will produce the same effect, he is guilty of another inconsistency; since he has affirmed that no two states of consciousness are ever the

same. Hence the same motive can never recur to produce the same effect. An artificial habit of thinking may give a motive the appearance of being an old motive come back again; but the Professor knows better, for that would be a violation of his principle of Duration. And if the principle is available for warding off associationism from the deep-seated states, it ought to be just as available for warding it off the others, for notwithstanding appearances which may have been engendered by habit, Duration in the growing Ego rules with as sovereign authority in the one set of states as in the other.

The surrender of the one set of states to associationism, and the restriction of freedom to the rare occurrence of moral crises in the other, is an unwitting confession that the growing Ego is not capable of being the bearer of free volition and the sense of personal identity. The simpler states fly off at a tangent from the circumference of consciousness. And while the author has an inveterate hostility to the noumenal Ego as the ground of personality and freedom of the will, he can only reconcile his conception of a growing Ego with the immediate datum of free volition, by investing certain psychic states with the attributes of the noumenal Ego. His growing Ego is the strange dualism of an Ego amenable to psychological determinism, and an Ego which manifests itself in free volition; an Ego which is indispensable for needs and activities and the relations of social life, and an Ego which is ever advancing to higher degrees of freedom. And these twain are one, equal in substance by the principle of Duration which permeates them both. There is inconsistency in saying that symbolical thinking in space is a useful artifice engendered by habit but a barrier against knowledge of reality, and yet giving over one Ego who is the victim of it in seeming only, to the law of causality. There is inconsistency in letting the minor states fly off at a tangent from the organic unity, and saying that the simplest state cannot be separated from the whole except by abstract thought. To be consistent it would be necessary either to refuse an inch of ground in conscious life to associationism, and so remain true throughout to the new principle of Duration; or else to throw up Duration, and leave the associationist master of the whole sphere of the growing Ego. There is apparently no other choice apart from the hypothesis of the noumenal Ego.

But even if the author took advantage of his own admission that the simplest state may represent the whole, and assumed that there are degrees of freedom which barred out the asso-

ciationist altogether, there are positions remaining which it is difficult to reconcile with each other. The final position taken in *Time and Free Will* is that an act of free will occurs only very rarely on occasions of moral crisis. For the most part we "are acted" rather than acting. But in a footnote on page 237 it is stated that "the process of our free activity goes on, as it were, unknown to ourselves, in the obscure depths of our consciousness at every moment of our duration; that the very feeling of duration comes from this source; and that without this heterogeneous and continuous duration, in which our self evolves, there would be no moral crisis;" *i.e.* none of those rare occasions on which alone we are said to be really free. How are these seemingly contradictory positions to be reconciled? We are free at every moment of duration. We are free only on rare occasions of moral crisis. And we can only be free on those rare occasions in virtue of that continuous duration, at every moment of which we are acting freely. This looks rather like a tangle of contradictions. There cannot be free action without an actor. Who is the agent at every moment of duration? It cannot be the Ego, for it is a growing Ego, is only the organic unity of states that permeate each other. These states, however, we are told, are living beings, analogous to the cells of the body, which also have an individual life of a kind. We are also told that in the realm of life duration certainly seems to operate as a cause. Will one of these hypotheses, which have a look as primitive as the guesses of the early Greek thinkers, be made use of against metaphysical determinism?

It was quite to be expected from the author's presuppositions that in discussing the notion of causality he should ignore the metaphysical form of it. Kant had said that without the relation of causality, we should have only an incoherency of subjective states. The mutual permeation of states dispenses with the need for the causal relation, and therefore Prof. Bergson did not feel himself called upon to disprove metaphysical determinism, as it resulted in the *Kritik of Pure Reason* and was sloughed off in the *Kritik of Practical Reason.* His line of argument in vindication of the freedom of the fundamental Self is, that the empirical law of causality cannot apply to conscious states, because the same cause, or motive, can never recur to produce the same effect. If his principle of Duration is taken for granted, that reasoning is valid against the determinist whose conception of the law of causality rests on an empirical foundation, that there is a causal relation only between terms which are invariably conjoined in experience. It has no validity against the

metaphysical determinist, who holds there is *a priori* necessity that every event must have a cause. The associationist will have some reason for hesitating to accept the principle of Duration: and admirable as is the exposition that is given of the different forms of empirical causality, it has no convincing force for any one who believes in the *a priori* necessity of causality as a form of thought. It may have been the inadequacy of language to express reality which betrayed the author to speak sometimes of a causal relation between particular states, although it does seem to indicate some lingering conviction "in the obscure depths" that such a relation was necessary. At any rate he comes very near recognising a causal relation when he says that a free volition is a manifestation of the whole personality: for a question immediately arises as to the origin and nature of the personality. That is answered by the author in his genesis of the growing Ego. It is an organic unity of psychic states permeating each other, and at every moment of its growth there is free action, but no agent apparently save the states themselves. How then is the free action which is only experienced at rare moments of moral crisis, related to the free activity of the states? And how is the free activity at every moment of duration to be reconciled with the subjection of the superficial self to the laws of association at all times except the rare moments of moral crisis? Do the states rise into being spontaneously? Does the law that every event must have a cause not apply to them even though they are qualitative? Or are they an exception to the law *ex nihilo nihil fit?* Are they primarily only epiphenomenal representations of shocks given to our nervous system, and focussed on our consciousness by our unit of duration? Or is the free action at every moment of duration action of some agent underlying the states, and only manifesting itself in them? All such questions are left unanswered in Time and Free Will. Yet answers must be found for them before we can be sure that a manifestation of an organic unity of mutually permeating psychic states is really an act of free will. If there is no bearer for the psychic states, they must either arise spontaneously, or be effects of some external cause. How can such an organic unity "ponder and decide" as the Professor says the growing Ego does at moments of crisis? Everything about the states and their relations is spontaneous. Not only their origin, their mutual permeation also is spontaneous; their organisation for the most part in accordance with the laws of the association of ideas is determined by the growing Ego's lower needs. Why should there be any de-

parture from spontaneity, any need for pondering and deciding? Why, in brief, are we not conscious automata? We are only saved from being so by the continuous free activity "in the obscure depths," which must be the activity of some agent distinct from the states. The author says that the moments of moral crisis in which alone we are really free, would never occur unless there was free activity at every moment. "The very feeling of duration comes from this source." What other conclusion is reasonable except that we have at the very origin of experience a personality the same in kind as that which is gradually attained in the author's system through the mutual permeation of states? The important footnote in the concluding chapter is nothing less than an unwitting confession by Prof. Bergson, that his system cannot hold together without the postulate of the noumenal Ego as the substratum of experience.

There is just one other hypothesis possible. The psychic states and all our conscious life may only be an epiphenomenal reflex of shocks given by vibrations of the external reality which "succeeds in science," and focussed into conscious experience by our unit of duration. But if that were the true nature of consciousness, the free activity at every moment "in the obscure depths" would be a gratuitous assumption, and therefore, according to the author, there could be no feeling of duration.

IV.—THE MEANING OF HUMAN FREEDOM.

By G. C. Field.

The problem of human freedom must present a spectacle almost unique in the history of philosophy. It would be difficult to find another case in which the conclusions to which all argument seems to point have been so unanimously and consistently rejected by successive generations of common sense and human experience. We all feel that we are free: one sometimes doubts whether even the most convincing advocate of Determinism ever really succeeds in convincing himself. But yet it is obvious that it is the Determinists who have throughout had the best of the argument: when the defenders of Free Will have tried to state their position they have almost invariably found themselves either giving an account which was obviously at variance with observed facts, or else involuntarily drifting into the use of terms which exclude anything that we can call freedom. And yet in spite of it all, it seems a fact of certain experience that we are free. The defenders of Determinism, of course, have always had a simple answer to this: they have replied that we feel free because we are determined to do so. I propose now to try to turn the tables on them by asking whether the converse is not equally true, and by attempting to show that, if we are actually free, it would naturally follow that the Determinists would have the best of the argument and that any attempt to give an account of freedom would lead to determinist conclusions. I believe that this will be clear if we examine what we mean by the freedom that we feel we possess.

But before we go on to this investigation, it would be perhaps advisable to illustrate the contention that all attempts to define freedom have resulted either in neglecting the real problem altogether, or in giving an account which entirely excluded the freedom which we were trying to define. Since the time of Green, there seems to have been a tendency in English philosophic writing to advance the theory that the so-called Self-Determinism gave us all the freedom that we

wanted. "Freedom," says an advocate of this theory, "does not consist in the absence of all law, but in obedience to laws of our own making." The self, then, is subject to the laws of its own nature. A stimulus from without may be necessary to action, but what the action will be is strictly determined by the particular character of the person acting at the time of action. Take, for instance, any action, say the movement of my hand to convey something to my mouth which I wish to eat. Here, we are asked to believe, there is first the external stimulus of the sight of the food. Then there is the answer of my nature which here is two-fold—the desire to eat, and the recognition that the best way to get the food is to lift it to my mouth with my hand. And so my hand moves.

Now how does this differ from the description of any event in the purely physical world? When I throw a stone so that it falls over a cliff, there is first the external stimulus given by my arm. Then there is the answer of the nature of the stone, in this case appearing in the exercise of the force of gravity. And so the stone moves. But one thing of which we can be quite certain is that an explanation, which describes human action in exactly the same terms as are applicable to the fall of a stone, is omitting the one element which is the essence of human action, namely that, whatever it is, in which the difference of the two consists.

This is admitted, and the difference is described as the presence of consciousness in human action which is absent in the other case. Very well, then: let us take another instance. I find that if I strike my knee in a particular place my leg will automatically kick out. Now this seems to be exactly what all action is on this theory. There is the outward stimulus, the reply of the nature, and the motion. And, in addition, I am conscious of the action. Indeed, if the addition of consciousness makes exactly so much difference and no more, then all it can mean is that we can sit by, so to speak, and watch ourselves acting in obedience to the law of our nature. Yet here again, we know that the two actions—the movement of my hand and the reflex action of my knee—are something quite different and distinct. And surely it is obvious that an account which must end by making them substantially the same is opposed to the unmistakable testimony of our own experience, and will not satisfy the demand for freedom.

Nor does it help when they introduce purpose as the distinguishing element of human action. If the purpose simply means the desire for a certain end, then it does not touch

the problem at all. We are asking whether the action is inevitably determined by the antecedents. And it does not touch that question to be told that those antecedents always contain an element of desire. On the other hand, we may mean by purpose the conscious and deliberate decision to make a particular thing our end, the end which we consciously set before ourselves. But then this setting an end before ourselves is itself an action of the will. And to be told that action necessarily follows from another sort of action only throws the problem a stage farther back. However we look at it, this Self-Determinism seems indistinguishable from any other sort of Determinism.

This conclusion will be reinforced if we consider it from another point of view. A given character in given circumstances will result in a given action. If, therefore, you know the character and the circumstances, you can foresee with certainty the action. We are not, of course, bound to maintain that any human being could possibly do so. But a mind which was omniscient at any one moment could. At any rate, the person is now actually of such and such a character. And that means, on this theory, that his future action must be somehow present in what he is now. But we may go further than this. It is part of the theory which we are discussing that, as the character determines each action, so each action re-acts and modifies the character. That is to say, if we know what the character is, we know what action it results in. A particular action re-acting on a particular character will give a particular result in a character modified in a definite way, which will in turn produce particular actions of a determinate kind. And so on, with the result that at any given moment the whole of the future history of a personality is somehow present in it as it is now—and, of course, in its surrounding circumstances too.

Even from this conclusion some Self-Determinists try to draw back. But they are inevitably forced further still. The whole of the future history of a person is present in him at the first moment of separate existence. But the character of the person then, which is to result inevitably in all its future developments, is in its turn the result of other causes outside itself. Unless we could conceive of each personality as self-created—a meaningless expression—it must be the result of some cause external to itself. When these causes produce it they must produce it already with a certain determinate character. And from this we get in inevitable sequence the whole of its future history. So the whole

history of every personality that will ever exist is already given in the conditions at any moment as far back as you can go, and is determined by causes quite external to itself. We then see how misleading the name "Self-Determinism" is: for the self, its character and actions are as much the inevitable result of external causes as the most open Determinist would make them. And indeed we may fairly take Self-Determinism as the typical form of Determinism at the present time, the form against which it is necessary for the defender of Free Will to argue.

Leaving this point, let us now turn for further illustration of our contention to an attempt of a different kind to give an account of action as it appears to the believer in Free Will. It is indeed one of the few attempts worth considering to explain the facts in a way consistent with this belief. Putting it as shortly as I can, I will try to do it justice.

In a great work of art, it is said, a sonnet of Milton's, or a sonata of Beethoven's, the successive words or notes seem to follow one another in a kind of natural order. When we have finished reading it or listening to it, we can look back and see how each successive part is necessary to the whole, and seems to follow inevitably on what came before. In a really perfect work of art we feel that every word or note is absolutely as it must be, that not one could be changed. And yet by no possibility could the end be foreseen. By no possibility, given the first line, could we prophesy what was going to follow. If we did so, the poem would be already constructed, and there would be no question of prophecy. And similarly with human action. When we look back on past actions in history or in our own memory, we can see how they follow out of the circumstances and each other; but by no possibility could any one construct from the present what the future would be.

Let us now examine the claims of this account to make clearer the meaning of free human action. Now, firstly, of course everyone would admit the surface analogy between the two processes. But this does not take us far. Even the Determinist might cheerfully admit that both in artistic production and other human action, we can, as a matter of fact, only see the causal connexion between the successive stages when we look back on the completed result, and that we cannot prophesy it beforehand from any inspection of the circumstances that are open to us at the moment. But this of course takes us but a very little way. The question is not concerned with the practical limitations to the powers of the human mind. We must examine the particular case of the

work of art more closely if we are to see how far and where it is helpful to us in understanding human action.

We may begin by asking why it is that we seem to see a connexion between the different parts of a poem, what we mean by saying that they follow necessarily one from another. The answer is, I think, that in this arrangement or connexion the words appeal to or arouse certain sensibilities or artistic emotions more perfectly than in any other. It is immaterial whether we are to put these sensibilities in the mind of the particular poet, or among the general characteristics of the human beings for whom he writes. It is, then, a question of a certain result to be attained, a result already present, implicitly or explicitly to the mind of the poet. Now it follows from this that either of two alternatives is possible. There may be only one way, one arrangement of words, which will attain this result in perfection, language being what it is, and the nature of the poet (or his audience) being what it is. In that case, the poem which will entertain this result will be definitely determined by these two factors. The conditions of the problem being given, its solution must be determined beforehand by them. In other words, the poem is somehow already present in the nature of the writer and the nature of language. On the other hand, there may be more than one way of attaining this result. It is difficult to imagine that there might really be several ways of attaining precisely the same result to precisely the same degree of perfection. But supposing that we can conceive it, what becomes of the necessary connexion between the parts of the poem? We can no longer say that each part is necessary, that the alteration of a single word would spoil it.

We next go on to ask what it is that we imply when we say that we cannot foretell the poem beforehand? What we mean, I think, is that in a concrete case we cannot say beforehand what the poet will do, we cannot, in fact, given his first line, construct the poem that he, that particular poet, will write from it. And it is easy to see what the Determinist would say to this. He would say, "The object of the poet is to express or satisfy certain feelings or emotions of his own. These being given, and also the nature of the language which is his instrument, it is theoretically perfectly possible for our supposed omniscient mind to say what he will have to write in order to succeed perfectly in his object. If he is going to succeed, then, the poem he will have to write will be absolutely determined beforehand by these conditions. But if he is not going to succeed completely, his

partial failure will have to be due to some limitation in his nature, some hindering present cause in his own mind. The omniscient mind will know this too, and will allow for it in its calculations. At any rate it will be there, and will decide beforehand how far and where he will fail. That is to say, before he begins to write, the poem he will produce will be already settled by the nature of his own mind, and, of course, too, by the nature of language, and by the surrounding circumstances and influences." That is what the Determinist would argue, and how are we to answer him? Surely only, if at all, by the simple assertion that his account does not describe the facts as we know them. This is exactly the same answer as we have to give to his whole account of action, and the particular illustration has not helped us at all. So that we end where we began.

To sum up our criticism of this attempt to give an account of the working of Free Will. The process given as an illustration either comes to a question of reaching a certain result, the successful appeal to certain feelings or whatever we like to call them. This is not really analogous to the question of the nature of human activity. So far as it was it would seem rather to strengthen the Determinist position. For all analogy would lead us to believe that, when it is a question of attaining a particular result, the way in which it can be done is determined beforehand by the result which we want to attain, and the conditions under which we have to work. Or else it is a question of the action of a particular poet or artist. And here it is simply a particular case of human action, one instance of the general problem which we are discussing. And it is obviously no help towards understanding to say that human action may be explained by analogy to one particular case of human action.

Such instances may help us to see how attempts to explain human action either explain nothing or else lead us straight to the most rigid Determinism. I hope to show later that this result is inevitable in all cases. The instances given only share in the general weakness that must necessarily invalidate any attempt to give an account of the process under discussion.

We begin to approach the core of the problem. And now for the first time we ask ourselves what the problem really is. What is the question to which the Determinist and his opponent give differing answers? The superficial statement of the question in the form, Are we free or not? obviously takes us a very little way. It is useless to ask whether we are free until we have some idea what freedom is. We must

make up our minds in what we think it consists, with what it is contrasted in this particular controversy, and also where we are to look for it or to what sort of facts it applies.

On this last point we may expect without much difficulty to reach a certain amount of agreement. Freedom, it will be admitted, is, if it exists at all, a characteristic of human action. We are free, if we are free, when we act. And the question really resolves itself into a discussion of the nature of the relation or connexion which exists between the preliminary conditions of the action, our desires, character, circumstances, etc., and the action itself. Of these conditions the essential one, the one which is immediately connected with the action, which comes next before it, so to speak, is the motive. And the question at issue in the problem of freedom may be expressed by asking, What is the nature of the connexion between the motive and the action? No one doubts that there is a connexion. The Determinist sometimes argues as if his opponent held that action, because it was free, must therefore have no motive at all. But this, of course, is absurd. Motiveless action would be strictly unconscious action. And no one wishes to reduce all human action to that. There is then a connexion between motive and action. The question is, of what kind it is?

Before we proceed to the discussion of this another preliminary question must be asked and answered. We must decide the lines on which we are to discuss, what sort of proof will be needed, and what evidence we are going to accept. And we may profitably turn aside for a moment to consider some of the different answers to this question which have been given before we finally settle upon our own.

Some have found the strongest assurance of the freedom of the will in the claims of the moral life. They feel that unless we are free, morality becomes meaningless. And some even go so far as to say that we are justified in throwing over anything that conflicts with our moral instincts, even though the sacrifice of it should make all intellectual reasoning meaningless and impossible. They claim that we may believe in freedom, because the absence of it is abhorrent to the moral instincts, even though a world which is not determined is abhorrent to our reason. In one presentment of this view we read, "If a certain formula for expressing the nature of the world violates my moral demand, I shall feel as free to throw it overboard, or at least to doubt it, as if it disappointed my demand for unity of sequence, for example". And again in the same work: "While I freely admit that the pluralism and restlessness [of a world which

is not completely determined] are repugnant and irrational in a certain way, I find that every alternative to them is irrational in a deeper way. The indeterminism offends only the native absolutism of my intellect—an absolutism which, after all, perhaps deserves to be snubbed and kept in check. But the determinism violates my sense of moral reality through and through."

We are most of us familiar with this type of argument, and we have most of us, I think, felt its insufficiency. Some, of course, have felt that their moral instincts are even more fully satisfied by Determinism than by its opposite. And more have felt, what is probably correct, that their moral instincts did not demand a settlement of the question one way or the other. But in general, and apart from this, the argument is unsatisfactory. Without claiming to give anything like a complete examination of it here, we may notice the following consideration. There is clearly an ambiguity in the use of terms like "moral demand" and "moral instincts," and the argument seems largely to depend for its force on a failure to distinguish the different meanings. On the one hand, these terms would stand for a group of particular feelings: desires for an end of a definite kind, a particular sort of pleasures or pains arising from the contemplation of certain types of action or character. Such feelings tell us strictly nothing beyond the fact that we feel them, and they cannot be contradicted by any theory or conclusion, unless, indeed, that theory involved denying their existence. But the theory of Determinism does not involve that. Whatever our opinion is about the freedom of the will, it will do nothing to stop us desiring the good and avoiding the evil, or feeling pleasure at the sight of one and pain at the sight of the other, any more than it will stop us from liking a sweet taste and disliking a bitter one. Indeed, these pleasures and desires would have to be included by the Determinist among the causes which determine to action, if the action is to be right. On the other hand, the phrases we are considering may be intended to apply to a certain sort of intuitive judgments, which we call moral judgments; judgments, that is, that certain things, actions or characters, are right or wrong, good or bad. These intuitive judgments, whatever their value, are, like all judgments, strictly intellectual processes. And as such they must take their chance with the other pronouncements of the intellect. And even if they are absolutely valid, it is not easy to see how they necessarily conflict with determinist opinions. We can pass a judgment as to the particular qualities which an action or character

possesses— the moral judgment, incidentally, does not seem very explicit as to what exactly its predicate "good" means —without necessarily implying a decision one way or the other of the free-will controversy. I do not think it can be shown that calling an action good or a character good has, as part of its meaning, an assertion of their freedom. But even if it could be shown, surely it would be clear that we do not feel that we are free because we can call actions good or bad, but that we call actions good or bad because we feel we are free. This would put the assurance of freedom in an immediate experience of the fact of freedom itself. And so we get on to psychological ground, and the question ceases to be a specifically moral one at all.

The evidence of the moral instincts, then, can give us no certainty one way or the other. But the case is different with the common line of discussion, the strictly "a priori" argument. If we could really find that the universal applicability of a particular form of causal connexion was necessarily implied in our having experience or being able to think at all, then the question would undoubtedly be settled. That is the most favoured method of determinist controversialists. They appear with a conception of necessary causation, which they declare to be involved in all thinking and the opposite of which they declare therefore to be unthinkable, and then proceed to apply this result to the question of free will. The unsatisfactoriness of this argument seems to lie in the extreme difficulty which, if one may judge from the differences of opinion among philosophers, is always found in deciding whether any truth is really "*a priori*" or not. If anything is really implied in all thinking, then we must believe it to be true. But then no two people seem agreed as to how much really is implied in all thinking or experience. This, of course, is no valid objection to this method of reasoning in cases where it is really applicable. But we have to take care to keep it within its limits: we must not attempt to apply it to things which are really a matter of experience. No apparent proof on "*a priori*" grounds could convince us that what our experience told us was not so. We cannot use what experience implies to destroy the testimony of experience itself.

All this tends to the same conclusion. The question of the kind of relation which exists between our motives and our actions is one which can only really be decided by our own experience of the way in which we act. If introspection and intuition of ourselves tell us that we act in a certain way, then no "*a priori*" argument could convince us that this

fact of experience was not the case. No reasoning could tell us that what we were directly conscious of was unthinkable: such a statement would, of course, be self-contradictory. It is inconceivable that in a question about our own nature like this, our own inner consciousness could tell us the exact opposite of what was the case. If we could not trust it, it is difficult to see what evidence we could accept.

For a question like this, then, about the nature of action we must go to the experience of our own selves for information. But before seeing what this direct experience tells us, we must first examine a little more closely what it is that we are going to ask it. We have already decided what the subject of our investigations will be: it will be the relation between the motive and the action. We have got now to try to attach some more definite meaning to the predicate we attach to this subject according as we reach one conclusion or the other. The Determinist says that the connexion is necessary. What does he mean by "necessary"? That is the question which calls for an answer. And as "necessary" does not seem to be a conception which admits of much further analysis or explanation, we require to be shown an instance within our own immediate experience of a kind of connexion which we can all recognise as necessary.

We shall find, I think, an obvious case of this in mathematical truths. To take the most elementary cases we all see that the connexion between triangularity and three-sidedness is a necessary one: or we see that, if two is added to two, the result is necessarily four. There we see, as it were, directly the kind of connexion which exists between the two facts: and it is this kind of connexion which we call necessary. It is this kind of connexion, the same at least as far as the necessity is concerned, that we assume to exist in the physical and mechanical world, though there we have no direct intuition of its nature, and though the events which are necessarily connected there succeed one another in time. There is no real difficulty in this last point: if we are dealing with facts whose nature involves motion, then the causation must inevitably work in time. The connexion is necessary in the same sense, a sense which may perhaps be formulated by saying that the one fact is somehow contained in the other. Hence the possibility of infallible prediction of one fact from the inspection of another.

What we have to ask ourselves, then, is whether human action is connected with its preliminary conditions in this way. And our own direct intuition of how we do act unhesitatingly answers, No. The connexion between the act and

its motive is not like this. It is different in kind. The one is not in any sense already present in the other: every action is something absolutely new. That is the whole case for human freedom. We know what a necessary connexion is: and we know by direct experience that this kind of connexion is not present in the case of human action.

But then the question arises of what kind the connexion is: because we have admitted that there is a connexion. And the Determinist demands an account of the kind of connexion which we suppose to exist. But he is doomed to disappointment. For it is really the central object of this paper to show that no account or explanation is possible, and that it is from the attempt to give one that all the confusions and difficulties which beset the question have arisen.

For consider. What do we mean when we say that we are going to explain anything? What must we do to explain it? If we are going to explain a thing or make it clearer, we must express it in more familiar terms. We must either analyse it into its parts, or else we must find an analogy to it in something more familiar and intelligible to us. It is clear then that we are always liable to come to a point where further explanation is impossible. Suppose, for an instant, that we are asked to "explain" a colour. A man who has never seen it asks what red is. It would clearly be impossible for us to give him an idea of it except by just showing it to him in a particular case. We could, if we were of a scientific turn of mind, talk to him about rays of light and particles of matter. But all this would not take us a bit nearer to explaining to him what red is. We could explain the conditions necessary for its appearance, but we could not describe to him what it is.

The same considerations apply even more forcibly to the case of human action. Here our experience tells us that the connexion between action and its antecedent condition is absolutely unique in our experience. There is a connexion, of course, but it is different in kind from any other instance of so-called causal connexion that we know. We know perfectly well what kind of thing it is. But we cannot put it into any simpler terms. It cannot be broken up into parts, because it is a simple, unanalysable thing. And it cannot be described by analogy with something more intimately known, because there is nothing more intimate and familiar to us than our own actions. Indeed, we might go further, and say that it would be impossible to find anything at all which could form an analogy to it. It ought to be a truism or even an identical proposition, and yet it seems to be for-

gotten, that conscious action is the only consciously active thing in the universe. All attempts therefore to describe it by analogy or in terms derived from anything else must end in making it unconscious and passive. That is to say, any attempt to describe it at all must necessarily result in leaving out just what makes it what it is, and in destroying its unique and singular character.

This unique and singular character, known to us in immediate experience, is what we mean by the word "free". Indeed it is difficult to see how the word "free," or the other phrases which imply the same thing, could have come into existence unless we were directly aware of some form of reality which they signified and which could be expressed no other way. Such reality is to be found in human action, or more strictly in the relation between the action and its antecedent condition, which, being of such a kind, makes the action free. This relation or connexion is a positive fact, possessing a positive quality. And this is where the confusion of the Determinist lies. He is arguing against a freedom which is conceived of as purely negative. That is to say, he imagines facts which can only be connected by a necessary connexion, and then tries to imagine that connexion away. And this he quite rightly declares to be impossible and unthinkable. But this method of argument rests on the assumption that things must either be necessarily connected or not connected at all. And this assumption has only to be stated to be seen to be groundless. For we have in our own experience an instance of a kind of connexion which we may call free. What the defender of human freedom is really asserting then is that we act in the way we do. Further, that our immediate knowledge of ourselves tells us what that way is, but for reasons given, we are unable to describe it except by, so to speak, pointing at it. And finally, that this knowledge tells us that the way in which our action is connected with its antecedent conditions is different in kind from what we call necessary connexion. And its unique quality is what we mean by freedom. Thus when we are faced with two alternatives we say with confidence that we "can" take either of them. And if we are asked in what sense we "can," we reply that it is in the only true and original sense which it is possible for the word to bear. This sense is really familiar to all of us, but we cannot describe it further.

Indeed it is doubtful whether, when the question at issue is really understood, we can argue about it at all. For to argue about anything you must at least be able to define it

or describe it. And we have seen reason to believe that any attempt to do this in the case of human action would involve describing it in other terms, in terms, that is to say, of something which was not action, that is, again, of something passive. So that by the very fact of discussing it, the believer in Free Will abandoned his case, which was, that human action was something quite unique, differing in kind from anything else. We know from our own experience what human action is. We know that, though it is connected somehow with its antecedent conditions, yet there is such a thing as freedom, and real choice is possible. We know perfectly well how this is, but we cannot put it into simpler terms. For to do so, we should either have to break up into parts something indivisible, or else to find a more familiar analogy for something, than which, on the one hand, it is impossible to find anything more familiar, and which, on the other, is unique and therefore cannot have anything analogous to it at all. So that the conclusion of the whole matter seems to be that it is impossible really to discuss the question at all.

But here perhaps a word of warning is necessary. The argument does not go to show that there is nothing more to be said about human action at all. There is still a wide field for discussion here. To take an instance. Freedom involves a real choice between alternatives. But there is considerable room for discussion in answering the question, What makes different causes real alternatives to us? In this sense, there are real limits to human freedom, and there is room for considerable doubt as to where exactly they are to be placed. I should myself, for instance, be prepared to advance the proposition that, while there are not always real alternative ways of acting before us, we always have the alternative between acting in a particular way or not taking any action at all in regard to the particular point in question.[1] But in any discussion on the subject we have to start from what is familiar and certain to us, namely the reality of freedom and its nature when it is present. Similarly in another case, the question of the nature of habit. One sometimes hears it argued that an action which is originally a fully conscious

[1] It has been suggested to me that this sentence is obscure. Perhaps an illustration will elucidate it. If there is a question of getting to a particular place, there may be no alternative ways of getting there, between which I can decide. But there is always present the alternative of going there this particular way, and not going there at all. Why I put in the proviso "in regard to the particular point in question," was to avoid seeming to suggest that it was possible to be alive and conscious without any form of activity at all.

action becomes gradually and continuously by repetition merely an unconscious habit: and that therefore there can be no difference of kind between a conscious action and unconscious and mechanical habit. But such an argument approaches the question from a wrong point of view. As we can now see, we should ask not what light theories of the nature of habit throw on our belief in the existence of freedom, but what light our certainty of the existence of freedom throws on the nature of habit. And if we start thus from the right end, we see that, so far as habit really is unconscious and mechanical, it must differ in kind from conscious action, and cannot be a continuous growth out of it. We should explain habit by likening it to the working of a machine which we have consciously constructed to act in certain ways on the receipt of certain stimuli. When completely formed it acts at once on receipt of these stimuli: but our conscious mind can always interfere and stop the machinery at any point. The apparent gradual growth of one into the other merely means that the conscious mind turns away its attention more and more from the matter with which the habit deals, and interferes at fewer and fewer points. The confusion is increased by our misleading use of the word "action" for processes, which implies more resemblance than is really there. Of course, it is only the outward and visible bodily *movement* which is really the same: this may be the result of a conscious act of the will, or it may be the result of habitual and mechanical reaction to stimulus. But in the latter case it would not strictly be *action* at all. Such an account, of course, is very fragmentary and incomplete. But enough has been said, perhaps, to show the way in which such questions should be treated in the light of the result already attained. But we must come back to the former point. This result itself, the certainty of the existence of freedom, is of its very nature a matter which does not admit of any real discussion.

And yet, of course, people have discussed it and will continue to discuss it. And the question why they do so might give rise to an interesting argument: but it is too complicated to deal with here. It could only be adequately dealt with as part of the general question as to the causes of error in philosophical speculation. Here there is only room for one or two suggestions. There is, on the one hand, an instinct, in its origin wholly laudable, which makes some thinkers very loath to admit that the limits of explanation, description, and analysis have ever been reached. They have to admit that, if only from the nature of language,

explanation and simplification cannot be carried on indefinitely. But in every particular instance a perverted form of this instinct makes them readier to offer an explanation which is demonstrably false than to refuse to offer one at all. But, on the other hand, besides this there is another instinct, perhaps in its origin equally laudable, but in its results even more mischievous. That is the passion for a premature unification. In this particular instance it takes the form of an attempt to reduce the human to the level of the mechanical, the conscious to the level of the unconscious. And it is an attempt that can only be successful at the cost of ignoring plain distinctions. Philosophical speculation may eventually be able to discover a principle of unity. But the most pressing work before thinkers of the present day is to point out the fundamental distinctions which have been ignored, and to destroy all the false monisms that have been built up. The war-cry of "Unity in our time" is merely visionary. Where experience tells us of fundamental differences of kind it is idle to attempt to bridge over these differences except on lines which experience itself points out. And in the case of the fundamental difference between the conscious and the unconscious, the free and the mechanical, we are very far from having discovered such lines as yet.

V.—DISCUSSIONS.

THE ORIGIN OF THE ATOMIC THEORY.

Aristotle, who among his other services to knowledge incidentally ranks as the first historian of Greek philosophy, represents Atomism as having been evolved by a sort of antithetical process from the doctrines held by the Eleatic School. In this he has been followed by Hegel,[1] with whose dialectic method such a derivation admirably agreed; some more recent historians, among whom Zeller[2] and Erdmann[3] may be mentioned, have accepted the same explanation; and it has quite recently been reasserted by Prof. Burnet.[4] Other scholars, however, of equal authority have affiliated Atomism to the natural philosophy of Ionia. In my opinion the latter view is the more correct one, and my object in this paper is to reinforce it with considerations which, so far as I know, have not as yet been brought forward in this connexion.

Aristotle does not seem to have had any historical grounds for the origin that he assigns to the Atomic theory. The actual existence of its founder, Leucippus, has been just barely vindicated against the denial of Epicurus in antiquity and of Erwin Rohde in modern times; but it seems to be agreed that of Leucippus personally we know little or nothing. The tradition that he was by birth an Eleate, so far from confirming Aristotle's account, was more probably suggested by it. For had it been well authenticated the other traditions naming one Miletus and the other Abdera[5] as his birthplace could not well have gained currency. Or, granting that the teacher of Democritus might have been supposed to be a native of the same city as his more famous pupil, how did Miletus come in? We are free then to treat Aristotle's account of the relations between the Atomic and Eleatic Schools as an *a priori* construction, framed to suit a particular theory of origination by antithesis and synthesis. It was an idea of Greek philosophy, first formulated by Heracleitus and more or less recurring among his successors that through all nature opposites are generated from one another, but that the highest

[1] *Geschichte d. Philosophie*, i., p. 364 (1st ed.).
[2] *Die Philosophie d. Gr.*, i., p. 952 (5th ed.).
[3] *Grundriss d. Gesch. d. Phil.*, i., p. 53 (4th ed.).
[4] *Early Greek Philosophy*, p. 387 (2nd ed.). Prof. Burnet quotes Aristotle's words on pp. 385-386.
[5] Ritter and Preller, p. 154 (7th ed.).

reality and the truest truth are given in the synthesis by which the resulting antithesis is harmonised. This is not Aristotle's version of the supreme verities, but he finds it a method of convenient application to the lower planes of thought—not without some cheap imitators among ourselves—and in this particular instance he has used it to explain what, in my opinion, may be more naturally explained by the modern idea of evolution through progressive variation.

Let me begin by admitting that the relation between Leucippus and Parmenides does seem, at first sight, to fit beautifully into the Aristotelian scheme. The atoms are opposed as an infinite multitude to the Parmenidean One, as heterogeneous to its sameness, as discrete to its unbroken continuity, as in perpetual movement to its everlasting repose. I may add, although this is a point on which some will not agree with me, that the absolute materiality of the atoms contrasts equally with the absolute Reason which for Parmenides is one with the absolute Existence. As regards the relation of the atomic Void to the Eleatic negation of non-existence something will be said later on. But to admit all this amounts to no more than admitting the sufficiently obvious truth that the two philosophies are on various points markedly contrasted with one another. Once the atomic theory was formed this contrast would force itself on every thinker who studied it in conjunction with Eleaticism ; but that does not imply that the ideas of Leucippus were suggested to him through any associative process by the ideas either of Parmenides or of Zeno, still less by the hypostasised Pythagorean numbers, which also have been assigned as a probable source for the atoms. In short such comparisons presuppose the very evolution they are brought in to explain.

So also the atomic theory being given, any one who likes may exhibit it for purposes of illustration as a happy combination of what was true in the paradoxes of Parmenides with what was indestructible in the prejudices of common sense. But the need of such a synthesis did not inspire Leucippus with the illuminating flash of his great discovery: on the contrary his discovery had to be made before the need of a synthesis could be felt. And here it may be mentioned that what *was* true in Eleaticism, the eternity of substance, was already the common property of Greek thought, being assumed by all the Ionian speculators and formally stated by Heracleitus [1] and Anaxagoras.[2]

In the absence of trustworthy historical evidence it remains for me to suggest, on genuine evolutionary principles, an easier and simpler explanation of the way in which Atomism may be supposed to have arisen.

In the eighth chapter of the first book of his *Metaphysics* Aristotle has observed that among those who assign a material cause to

[1] Fragment 30 (Diels). [2] Fragment 3 (Diels).

the world some have chosen water, some air, and some fire as the first principle of all things, while not one has pronounced in favour of the remaining element, that is earth. And this strikes him as paradoxical, in the sense of being opposed to the common opinion of mankind. For most people, he says, consider that all things are earth. And this, he adds, is not merely a popular but an ancient belief; as witness Hesiod, who tells us that earth was the first body to come into existence. But from the philosophic point of view the reason why earth was not put first becomes clearer. For it is most natural to take as the most elementary substance that which consists of the smallest parts, whereas earth is the coarsest-grained element, while fire, being composed of the smallest and lightest particles, best satisfies the conditions of the problem.[1]

Why people should think of fire as composed of particles at all is a question that Aristotle does not seem to have asked himself; nor does he mention the atomic theory in this connexion; yet it exactly meets his difficulty. For the Atomists evidently received the suggestion of their elementary principle neither from water, nor from air, nor from fire, but from earth. As conceived by them the atoms were neither liquid nor gaseous, but hard solid substances, so minute indeed as to be insensible, but still to the mind's eye of an essentially stony, that is to say earthy, character. Now it is a matter of daily experience that all sorts of terrestrial substances can become finely comminuted; as also that this state, which we call dust, is the last phase in which they appear before finally passing out of sight. More particularly, dust, or something like it, is the form to which earth is reduced by the disintegrating action of the other elements. That fire reduces what it consumes to dust is sufficiently obvious; and that water has a very similar effect is shown by the sands of the sea, while the sands of the desert would be explained by the action of wind, which is air in motion.

Nor is this all. The disintegration of earth is visibly followed by its reconstruction. Although on a superficial view dust may seem useless or even hurtful it reveals itself on closer inspection as a beginning of new things. Æschylus describes "thirsty dust" as "sister and neighbour to the mire"[2]—an observation we can all confirm from our own experience. Mud again is an excellent substance to spread over the exhausted soil, which in its renewed fertility becomes a fresh source of vegetable and animal life. This great fact of the circulation of matter is an important discovery of early Greek thought and should be carefully kept in sight by its interpreters. A celebrated English critic, Walter Bagehot, referring to Thales and his derivation of all things from water, satirically observed that water cannot explain pea-soup, much less a hard rock. But when Thales saw—or thought he saw—that everything, hard rocks included, was washed down to and ultimately disappeared in the sea, this came to him as a proof that everything was

[1] P. 988, 35 *b sqq.* [2] *Agamemnon*, lines 499-500.

see 1st series no. 62. p. ... W. A. Heidel.

being perpetually built up again from the sea, or more generally from water. The same seemed true to Anaximenes of air and to Heracleitus of fire. But there is a difficulty about making fire the source of all things to which air and water are not obnoxious. We can see new existences springing directly out of those elements, but not, or at least not directly, out of fire. It is indeed a sufficiently patent form of energy; but the Greeks had not reached the conception of energy, still less the conception of its persistence. Thus to think of fire as being like air and water a fountain of life they had to go round by the sun, in fact to identify that luminary with our earthly sources of heat, a conclusion impeded by certain theological difficulties which Heracleitus was apparently the first to overcome. It was a brilliant generalisation of that great thinker that fire must be convertible into the other elements by an exchange of measurable equivalents, just as they are convertible into it. But of the reason suggested by Aristotle for making fire the first principle of things, namely, that it is composed of the finest particles, Heracleitus could not have had the faintest suspicion. For the notion of fire or anything else as composed of particles, fine or coarse, first came in with the atomic theory. And if my explanation be true it arose from the observation of dust as the finest form of earth and therefore the form best fitted to act as a link between earth on the one side and the more immaterial elements, water, air and fire on the other. That we should still talk as Homer did [1] with equal propriety about a cloud of dust and an atmospheric cloud is a suggestive circumstance. It might well suggest to a Greek of extraordinary sagacity that there is a unity of composition between the two agglomerations, and that the heavenly like the earthly body is composed of solid particles, but particles so small that they cannot be seen, the notion of invisibility being contributed to the atomic theory by air as the notion of solidity is contributed by earth. To water it owes the equally important notion of a perpetual transition from a visible to an invisible phase of existence, or *vice versâ*, the one being suggested by the study of rain and dew, the other by the study of evaporation. The remaining element, fire, arises directly from clouds and indirectly from air under the form of lightning. And this may have contributed the notion of unceasing mobility, which completes the idea of the atom as conceived by the Greeks.

It remains to consider whether the notion of a void—no less indispensable to the atomic theory than that of the atoms themselves—came to its founder, Leucippus, from Parmenides. Such a derivation is, I think, negatived by the simple fact that Parmenides while referring to the notion of empty space as absurd, self-contradictory, and inconceivable, clearly regards it as a prevalent delusion, to disabuse men of which needed the intervention of a goddess. Leucippus had evidently read his polemic, which he meets by the

[1] *Iliad*, xiii. 336.

ironical retort that if empty space is *naught* then it exists as much as *aught*.[1] Parmenides may have helped him to a clearer view of pure space; but in any case he must have been led to it by the conception of the atoms, which would be meaningless unless thought of as dispersed through an absolutely immaterial recipient. Common air holding minute particles in suspension would furnish a first approximation to such a view. Air with its whole material substance condensed into similar but far more minute particles would offer the imagination a complete picture of the universe as represented by the atomic theory.

[1] Plutarch credits Democritus alone with this peculiar phase (fragment 136, Diels); but compare Aristotle, 985 *b* 4 *sqq.* (R. P., p. 158, 7th ed.).

A. W. Benn.

A NOTE ON PRAGMATISM.

Discussing the truth-issue in his *Meaning of Truth*, William James remarks that "it seems evident that the subject is a hard one to understand, under its apparent simplicity; and evident also, I think, that the definite settlement of it will mark a turning-point in the history of epistemology and consequently in that of general philosophy". Is this settlement being facilitated by any hypothesis or attitude which pragmatism can call specially its own?

The pragmatists have a right to complain that they are often misunderstood. Thus James did not desire, as some writers seem to have thought, to abolish the *object* of belief. He held, like Mill or any other sane person, that truth implies *relation*—means agreement (as error does disagreement) of "ideas" with "reality". I am referring now to his clearly stated utterance in the *Meaning of Truth*. Was he always loyal to this way of discussing Truth? I think not. *E.g.*, he observed once in Mind that "an enormous quantity of truth must be written down as having pre-existed to its perception by us humans". Clearly truth, if it implies a relation in the experiences of humans, could not have pre-existed to humans. But I shall ignore stray slips of this kind and abide by the clear utterance found in his *Meaning of Truth*.

So far, then, so good. He continues: "The truth of an idea is not a stagnant property inherent in it. Truth *happens* to an idea. It *becomes* true, is made true by events. Its verity *is* in fact an event, a process namely of its verifying itself, its veri*fication*. Its validity is the process of its vali*dation*" (*Meaning of Truth*, vi., Preface). Note the stress which is laid on "process". Has the truth "process" no terminal point which has been ignored?

A critique of this pragmatism falls under two heads:—

1. The "process" alleged does not validate, but mediates validation. And truth does not "happen" to the *mere* "idea".

Surely conceptual truth presupposes the flash of similarity which occurs *after* the "process" has confronted 'idea' with 'reality'? I agree entirely with the pragmatists—and others—that a truth-claim unverified by human experience is a claim and nothing more; has no "inherent property" that can be labelled 'true'. But the indispensable verification lies not in the bare "process" of which James speaks, nor, again, is it a happening to the mere

"idea". The flash of similarity, in which "idea" *and* "reality" momentarily fuse, is the verification. It is, *in virtue of this similarity*, that the "idea" can be used with confidence anon as a *working-substitute* for the "reality". If it did not, in some degree, however slight, resemble the "reality," it could not be expected to work even practically at all. This seems to be the foundation of the 'correspondence' hypothesis of truth: an hypothesis which, in the regard of conceptual thought, is quite satisfactory on the condition that the alleged 'correspondence' obtains *within* the experience of this or that individual. There can be no directly verifiable correspondence between "ideas" and *transcendent* reality. Hence, in our present stage of evolution, all the bolder assertions of human philosophers have to be regarded as truth-claims and not as truths. Strictly speaking, I am unable to verify completely any assertion, the empirical confirmation of which requires data of which I cannot be aware directly. It is idle to complain of my limitations. I am not, indeed, a windowless monad, but the view from my window seems certainly poor. An appreciation of this fact means much to the mystic, but for the moment we can be content to ignore the reflexions which make appeal to this worthy.

In regard to conceptual truths *in posse*, truths which are held at first in an abstract or thinly pictorial form, and are subsequently verified in human experience, a modified correspondence hypothesis recommends itself. There is a bringing of one series of facts—of substitute-facts or "ideas"—towards another series of facts, *towards* "reality" with intent to discover whether these *numerically different* series agree. And the test of the agreement must surely be this—the likeness in certain relevant respects, however poor, of the two series. The truth-claim about 'electrons,' for instance, could only be verified if the electrons *as pictured* were found to resemble the *possible perceptions* or "reality" implicated sufficiently well to admit of the electrons representing the said reality in our thought. Save for this verified resemblance, no assertion about 'electrons' can be accepted as a full-blown truth. The resemblance need not be very close; it may not extend to features other than those of space-occupancy and movement, but resemblance of some sort would seem required. An 'electron,' which is a mere verbalised fiction with no corresponding reality indicated by it, might be called a concept for useful mathematicians, but it cannot figure in a relation which is to reveal it as true.

But there is a complication when we come to discuss judgments of perception. If, for instance, when in full perceptual awareness of reality, I say 'this snow is hard,' I make a statement which, *for a third party*, is 'about' reality, and which, evoking in his mind certain "ideas," may induce *him* to inquire whether these "ideas" *correspond with* the reality—the reality in his (human) experience. But for me at least there is no obvious 'correspondence,' such as

obtains in the case of conceptual thought. I assert a truth. I do not, however, bring any series of ideas *towards* reality, I aware the truth *in* the reality. Or shall I say that a truth-claim is carved out of the reality and verified or found therein immediately the carving is done? Modify the explanation as I may, it remains clear that the "ideas" in the foreground of attention are *also* aspects of present reality, of a portion of which, itself selectively noted, they are affirmed. Nothing which constitutes a truth-relation "happens," as James would say, to the mere "idea". The mere "idea" does not become true—the truth-stroke is the flash of identity. The "truth" is bodied forth in the very content of the "reality" or perception itself.

2. What, now, is the novelty peculiar to Pragmatism? Its truth-hypothesis is aimed at the Absolutist. It approximates, however, to that of Mill and his many admirers. These empiricists, too, aver that Truth is a general name for true propositions, and that propositions which exist only in human heads can be verified only in human experience. They, too, contend that true statements subserve purposes, practical or theoretic in their main emphasis. Does the difference between them and the pragmatist hinge on the 'copying' issue alone? James perhaps suspected a failure of pragmatism in point of originality here. He writes (*Meaning of Truth*, p. 121) that "Humanism is *not a single hypothesis or theorem* . . . it is rather a slow shifting in the philosophic perspective". But the shifting did not begin with pragmatism. What is James's *bête noire*, to destroy which his pragmatism persistently works? What but the outworn old German belief in an Absolute Truth-System? Well; the original shifting of the philosophic perspective to the discrediting of this Truth-System was initiated by Schopenhauer, for whom the cult of the Concept was an accursed thing. I note gladly that pragmatists of the Anglo-American school have done splendid work in *continuing* and pressing the assault thus initiated, but the point is that it was not they who started the campaign.

E. D. Fawcett.

'FEELING AND THOUGHT: A RESTATEMENT.

It seems necessary that I should make some reply to Prof. Titchener's attempt to discredit my criticism of his two volumes of lectures. My criticisms will be found in the preceding volume of this journal, pages 570 and following, and in this volume, pages 108 and following; Prof. Titchener's reply appears on pages 258 and following of this volume.

In my first criticism I endeavoured to show that "the validity of Titchener's whole position," as presented in his earlier volume, "turns upon the attribute of extent, the *total* absence of a clearness attribute in affection and the reference of feelings beyond themselves" (p. 574). In the opinion of Prof. Titchener this comment reduces in effect to a charge of logical defectiveness. I do not think so. Prof. Titchener's attempt to define sensation and feeling by enumeration of attributes encounters what I consider to be real difficulties, difficulties which not only put the value of his definitions in question, but should also send him back to renewed observation of the facts.

Prof. Titchener next asserts that my logic has not been adequate to the theory I criticise, or attack, to use his word. For at a certain place I ask: Are feelings so unclear? In Prof. Titchener's view feelings are non-clear, so that my question reduces itself to the absurdity: Are non-clear states so unclear? But Prof. Titchener is well aware that I appreciated his view and argued directly against it. On the page preceding that on which he quotes my question, he even states my objection himself: that he had not made it ("logically") plain how a mental element can lack clearness. The actual words I used were: It is hard to understand what is meant by a mental state that lacks clearness. Indeed, such a state is to me as unintelligible as is a state devoid of duration. And Prof. Titchener does not do much to help me over my difficulty. For example, in his *Lectures* (p. 289) he assures us that an affection—however prolonged and intensive—is never clear, never comes to the focus of attention. Does this mean that a feeling is non-clear or only unclear? And do all mental states that stand in the lower level of attention, or that never come to the focus—which is the same thing—lack the attribute of clearness? Very many psychologists hold that feelings are merely unclear. Perhaps we may infer that Prof. Titchener has mistaken unclear-

ness for non-clearness. If so, we might go farther and argue against the view that feelings are unclear. That, in fact, I did in the words: "Are our feelings so unclear? . . . And are those organic sensations that fuse with feelings and are confessedly so like them, that some persons cannot or will not distinguish them from one another, so clearly marked with the attribute of clearness?" (p. 572). In his reply, Prof. Titchener says: "The phrase 'total absence of clearness' means for me what it says: which is something very different from total obscurity". Of course! But in his *Lectures* (p. 292) he is also capable of saying: "What does this theory [of mental development] explain? It explains, first, the obscurity of feeling, the absence of the attribute of clearness."

I think my logic is as adequate to the situation as is Prof. Titchener's proof. But then, of course, Prof. Titchener does not sully his case with argument; "the issue for psychology is an issue of fact, of direct observation". Logic, argument and even a little interpretation are unprofessional. A direct appeal to psychology—that is the watchword.

As to my emphasis upon the importance for Prof. Titchener's position of the reference of feelings beyond themselves, I need say nothing more, since Prof. Titchener informs us that "that is a question which cannot arise in a discussion of the elementary affective process" (p. 259). Besides, I have given my criticism of his views on reference, as they are stated in his second volume.

My review of his second volume, Prof. Titchener says, speaks the language, not of criticism, but of affronted omniscience. I hope the curious reader will notice all of my "charges," and not "by way of illustration," merely the first and the last, so that he may judge for himself, whether they have any general interest or critical value.

The object of this last or fourth criticism of Prof. Titchener's sensationalism was the "somewhat too exclusive reliance upon the method of analysis as carried out by himself". To that I added the note: "It strikes me as rather curious that Titchener of all people should set up a general psychological characterisation of himself against the detailed work of several observers and the floods of introspective descriptions they gave us". Prof. Titchener replies that his first chapter may be a characterisation, but that the observations of his last chapter are on all fours with those of the Würzburg studies. I think Prof. Titchener will allow that that is a matter of opinion, which is worthy of note, but hardly forms material for a "reply". Prof. Titchener next observes that he does not stand alone, but that colleagues and students, to whom he refers in general terms, agree with him. That may very well be so. I think, however, that it is somewhat unusual to attach great weight to observations merely because they bear the unpublished confirmation of a few colleagues, not to speak of

students. That his observations do not agree with those of the observers I referred to, Prof. Titchener does not deny: he simply points out that these observers are not in agreement among themselves. Finally, he tells me that I know perfectly well that the question is: How are we to interpret the introspections which have been accumulated? The interpretations of Bühler and Dürr differ from one another on essential points, and Prof. Titchener's interpretations certainly differ from both of them. It seems, then, after all, that we are urged to accept Prof. Titchener's observations and Prof. Titchener's interpretations and to leave the others. That is precisely what I thought rather curious. It is also curious to notice that Prof. Titchener, in dealing with thought, considers interpretation quite the thing.

The constitutional bias of a writer in favour of his own theory I consider to be irrelevant to the issue, so that it may be ignored by the reviewer. I am asked for proof. When some weighty argument is put up, shall the critic say: We must not take much notice of this, because the author has a constitutional bias in favour of his view? or shall he say: That is a mighty word, for it flies with the momentum of constitutional bias upon it? I always thought a confession of bias was a plea for non-consideration. If Prof. Titchener has the authority of James, Woodworth, Ach and others on his side, I would fain think the judicial spirit of any country willing to banish bias from a proof. When there is no evidence to call, bias will account for much; it may save or damn. Let Prof. Titchener confess to bias, if it does his heart good. But it is outside the canons of a good "reply" to seek to establish bias in a critic in order to discredit his work.

HENRY J. WATT.

VI.—CRITICAL NOTICES.

Riddles of the Sphinx: A Study in the Philosophy of Humanism. By F. C. S. Schiller, M.A., D.Sc., Fellow and Senior Tutor of Corpus Christi College, Oxford. Swan Sonnenschein & Co.

Some twenty years have passed since Dr. Schiller's well-known *Riddles* first saw the light. *Tempora mutantur et nos . . . !* The author observes in his Preface to this, the third and revised edition, that he is no longer able to endorse all the conclusions that were reached in the original work. He is now a mature Humanist, alive to the unsatisfactoriness of his earlier "gropings". He disbelieves now in the possibility of framing any system of metaphysics which can lay claim to absolute truth and certainty; thinks further that philosophers, himself included, have been prone to overrate their importance. Still he is haunted by a 'personal vision' of the universe and opines that his loyal public may care to hear about it. Accordingly, he gratifies this curiosity with the revised work; a valuable contribution to thought, brimful of subtle *aperçus* and criticisms and refreshingly contemptuous of time-worn shibboleths and systems. It is constructive as well as destructive. The author does far more than dwell on the defects of famous philosophers, absolutist and other, with intent to show what power "Humanism" has to demolish. I have heard an acute thinker describe Dr. Schiller as too critical and "subjective"—as too loth to expose himself to the risks incidental to constructive work. But none surely will read the *Riddles* and impute to him lack of daring. The chapter (pp. 33-94) on "Scepticism," viewed as a developed agnosticism, shows effectively what a case against metaphysics destructive thinkers can urge, but the author presents these arguments simply to make clear that he is fully aware of their force and yet anon able to pass beyond them. This "study of Humanism" is designed, in sooth, to brush Agnosticism and Scepticism from our path. It goes very far indeed on the way of positive ontology; in the matters, for instance, of Theism, of the teleologic interpretation of the world-process, of pre-existence, of the plurality of lives, of Immortality, and of the ideal of the changeless perfect society of individuals which is to crown evolution, submitting truth-claims, which if held valid, must draw approval even from the exacting Sphinx! Dr. Schiller withal is no dogmatiser, but puts trust in the "natural dialectic of the soul and the necessity of the

process which impels it step by step, from the coarsest prejudice and crassest 'fact,' towards the loftiest ideals of metaphysics". The order of discussion is not arbitrary, but seeks to convenience, as far as may be, this 'natural dialectic'. And the upshot is one of the most live and interesting volumes which give worth to modern British philosophy.

Metaphysics, it is urged, is worth our trouble, because a *practical* issue is involved—the problem of how to live well. And to live well we must obtain an understanding of our position and prospects. We cannot act with fully intelligent purpose unless we have found some clue to the mystery of our standing in, and expectations from, the world process. There is required some *highly probable* solution of the riddles of the Sphinx. In this solution lies the only tolerable alternative to Pessimism, *i.e.* the view that the nature of things is perverse "rendering all the aims of life illusory". In the powerful chapter on "Pessimism," it is urged that the ideals of knowledge, goodness, beauty and happiness, if our outlook goes no farther than this terrestrial life, are fated to disappoint. To this extent, then, we can endorse the conclusions drawn by Schopenhauer and von Hartmann. And unless we can believe that the world-order, as we now know it, is a stage only in the coming-to-be of a consummation which will be truly satisfactory, there is nothing for it but to despair of life. For myself I would go farther. Were it not that I saw ground to believe in the persistence and final satisfaction of individuals, I should both preach and act a gospel of pleasant Decadence. *Que tout crêve!* The optimism of some moderns, who profess to have no use for immortality, is really pathetic. They have depicted evolution as a tragedy-farce and they still dare to expect us to take "progress" seriously! But "if," as Dr. Schiller writes, "the chapter of life is definitely closed by death, despair is the end of all its glories." [1] I recall the case of an agnostic friend who was so worsened by this sense of "despair" that he said to me almost in the words of the poet:—

> Let's eat, drink and play till the worms do corrupt us,
> 'Tis certain,
> *Post Mortem*
> *Nulla Voluptas.*
> For health, wealth and beauty, wit, learning and sense,
> Must all come to nothing a hundred years hence.
> —Jordan.

He was rational enough after the limitations of his kind. Why, as I have urged elsewhere, strive to be a master-builder when the fane contemplated is certain to be overthrown—when not only you, but the human race itself, are but passing events in the history of a moribund planet? The game of the grave sage is really one not worth the playing.

[1] P. 367.

In chapter v. the subject of Reconstruction is broached. The worst has been said. And we have noted, further, that a great deal of pseudo-philosophical work can be set aside as not even confronting honestly the difficulties which have been stated. A great many systems of thought are vitiated with "latent pessimism". But how are we going to reach a solution of our riddles which is satisfactory? At this stage the discussion of a "new theory of truth capable of repelling all the assaults of scepticism" is foreshadowed —and we know, of course, at once what is coming. With respect to the most recent statement of this theory, to wit that "truth furthers a purpose conceived as cognitive"[1]—a purpose which Error thwarts, I must avow that I find little enough to criticise. It is admitted almost universally that we judge 'toward an interest,' and that, in so doing, we desire *to know*, whether with the ulterior end of forwarding action or not. But those of us who agree with Mill, that truth is not a Cosmic Whole ("self-fulfilling and self-fulfilled" as Hegelians would urge), but that it is a "sum of true propositions" (verifiable empirically), will want to be told in what respect the alleged novel theory of pragmatism differs from ours. Is it solely in respect of the contention that truth need not reproduce or 'copy' aspects of reality? William James, I observe, in his *Meaning of Truth*, does not base the importance of Pragmatism on the claim that it proffers a new Truth-theory. He terms pragmatism, indeed, with diplomatic caution, *an attitude rather than a theory*. If Dr. Schiller admits this correction, he will have to admit, I will venture to suggest, much more. For the *attitude* which rejects the vision of an absolute Cosmic Truth-Whole, and refers us, in radical empiricist fashion, back to concrete appearances which arise in *human* experience, has been approved already by such otherwise opposed writers as Schopenhauer and Mill. I must submit here that the British empirical school has been overlooked by pragmatists in a way which calls for some comment. Thus even Dr. Schiller's treatment of the "Axiom" of Causality as what it is, *viz.*, a mere "Postulate," will be found to have been anticipated by Bain.

I note further that Dr. Schiller's view of truth seems not always hostile to 'correspondence'. I hap on utterances such as these: "if our description of the world-process is *true*, the world must satisfy all the characteristics of that description" (p. 200); and "Not one of the principal conceptions of our science is true, not one is able to grasp the 'Becoming' of things as it really is" (p. 58). But, perhaps, such passages preserve first edition "gropings" of the *Riddles* which have been left behind! There exists, I must say in passing, an improved and '*humanistic*' form of the Correspondence Truth-hypothesis not unworthy, perhaps, of notice.[2] Accord-

[1] *Cf.* Dr. Schiller's paper on "Error" (International Congress of Philosophy, Bologna, April, 1911), p. 12.

[2] *Cf.* my *Individual and Reality*, p. 38.

ing to this hypothesis, the 'correspondence' has to lie within human experience, if a truth-claim of the verifiable sort is in question. If truth-claims cannot be validated within such experience they remain—merely claims, as do Dr. Schiller's own assertions about God for instance.

Dr. Schiller's business in disposing of Pessimism is to account for Imperfection, Becoming and Time. Since, however, appearances are against us, we must push our truth-claims beyond them: the basis of inquiry being the "reality of the Self or Soul" (p. 138). Ought we not to say rather "reality of the centre of consciousness, which is called 'mine'"? 'Self' and 'soul' are not, after all, such pellucidly clear concepts as to serve as the very basis of an inquiry. (Dr. Schiller's vindication of his attitude will be found on pp. 138-144.) Deduced from the reality of Self is the necessarily anthropomorphic character of all human feeling and thought; the essential requisite being to keep this anthropomorphism "good". *Humanism is just this "good" anthropomorphism:* a remark, let me note, which squares with William James's view already cited that Humanism is an *attitude* rather than a particular hypothesis about truth.

The Naturalistic Method, as based on the lower sciences and deriving the higher from the lower, is rejected. Eke the abstractionist which stands too aloof from fact. The method of Humanism is designed to avoid these mistakes. It starts from concrete human experience and feels its way from the phenomenally real, with the aid of science, to the ultimately real—to metaphysics. "The method of philosophy will utilise the results of science; metaphysical theories will be suggested by scientific researches and will approve themselves by in their turn suggesting scientific advances. Their principles of explanation will be systematically based on the sciences, and not picked up at random, and their function will be to systematise the fundamental principles of the various sciences" (p. 165). In the chapter on "The Metaphysics of Evolution" we begin to see how this method can be made to work. Metaphysics may be regarded as the "science of the borderland of knowledge; it marks the progress men have made in analysing out the assumptions of their knowing" (p. 171). We enjoy a discussion of scientific Evolutionism viewed as a phase of the Historical Method, pass to the concept of a *world-history* with *meaning*, and anon to the question of the relation of *higher* to *lower*, as these show in the Time process; history not always accounting adequately for the reality which emerges in time. It is found that a naturalistic Evolutionism will not work. The lower must contain the germ of the higher "potentially" or the method fails (p. 194). But in any case, we may comment, the word "potentially" profits us little. Could we conceive, for instance, the 'germs' of the *Critique of Pure Reason* or of a motor-car as somehow present in a nebula? It would not suffice that we were ready to interpret *all* becoming on

panpsychistic lines. A thing is "potential," I suppose, when some of the conditions of its production are present; the rest being absent and merely supplied ideally. How many "conditions" of Kant's book or of a motor-car were present in the nebula? Arguing in this way we may have to contend, not only that evolution is psychical in character, but that it is creative within the time-process itself. The word 'potential' only *seems* to rescue us from a difficulty. I pass by the discussion of Aristotle's view of δύναμις and ἐνέργεια in relation to Evolutionism; the question, I note, is still *sub judice!* The results of the chapter are to the effect that the world-Becoming is a real process, with a beginning and end, that it makes for perfection "without any suggestion of a reversal," that the process is from potentiality to actuality, and that "hence the world possesses more actuality, more real significance and 'Being' in the later stages of the process than in the earlier". In the Time-order the less perfect precedes. But this order reverses the true relations of things. A teleological method, accordingly, explains the earlier and lower with reference to the later and higher as realised in the world-end. This End and meaning of the process must not be divined by any exercise of abstract thought, but is to be determined from a survey of past facts in which man has cause to believe—in short from historical data. Under "Formulas of the Law of Evolution" we are invited to consider evolution as the development of individuals in association and later the end of the World-process as that of a perfect society of perfect individuals. It should be borne in mind that Dr. Schiller regards 'atoms' [or 'sub-atoms'] as merely symbols for "spiritual entities akin to ourselves" (p. 269), so that his formula of evolution cannot be rejected as insufficiently broad to cover the phenomena of Nature. 'Natural process' is, for him, a veil which just lets us glimpse the spiritual activities behind. And there is some evidence, he thinks, to show that *individual differences of character* obtain even on the lowest rungs of being. "Atoms, crystals, animals, and men" are "successive embodiments of the process towards individuality" (p. 234). Evolution is interested, so to speak, in the careers of individuals and nothing else.

Book iii. opens with a chapter on "Man and the World". The survey of various uses of the word "infinity" is important, and the author offers good grounds for rejecting the belief in infinite Space and Time. Those of his critics who allow that space may be finite, but favour, withal, the infinity of time, will fare better if they get rid of the empty Time-Frame notion, and recall Mill's definition of time as 'an indefinite succession of successions unequal in rapidity'. Can we not formulate a workable theory as to how such a succession could have begun?[1] Dr. Schiller describes time as a "*Corruption of Eternity*, just as Becoming is a *Corruption of Being*" (p. 257): Being "equable and unchanging" was the pre-

[1] See my *Individual and Reality*, p. 272 *et seq.*

cosmic state. "Time is but the measure of the impermanence of the imperfect, and the reason why we fail to attain to the ideal of Eternity is that we fail equally to attain to the cognate ideals of Being and Adaptation. The question therefore resolves itself into the old difficulty of why the Real is not yet adequate to the perfection of our ideals. But if it could be, is it not evident that there would be an end of Time, as of Change and of Evil, and would not Time pass into Eternity?" (pp. 257-258). Eternity, as reinstated, will be changeless activity, not a Nirvanic stagnation in which Being lapses into nothingness.

The 'objective world' arises out of the interactions between God, —who is a finite personality and not yet perfect,—and the 'ultimate egos,' of which we and all lower individuals, subatomic included, are the phenomenal show. These 'ultimate egos' are not occult substrata, but of one tissue with the phenomenal 'selves' (pp. 259 *et seq.*).

According to this Pluralism, the so-called 'objective world' exists incoherently in fragments in innumerable discrete egos. Neither God (who is really only the most potent of the egos) nor the other egos can hold it in a complete form. Even God can hold no more than what the Egos' actions add to His original spiritual contents. Again, the Egos, just because they help to produce Nature—or rather the many Natures, since there is no common one—cannot *also* arise out of it in time. Nature does not swing clear of the finite percipients. It is thus no objective idealism which the author proffers us. Nay, his worlds are in truth but dreamlike shows. "Philosophy has answered the taunt that truth is a dream and God a hallucination by gathering truth from dreams and by tracing the methods of God's working through hallucinations" (p. 282)—the 'objective world' is, in fine, *hallucinatory*, "subjective in its mode of genesis". It is difficult to see how, on such lines, one can begin to rethink metaphysically the time and space arrangements presupposed by biology, geology and astronomy.

God is only an Ego among egos; all these being pluralistic ultimates. True, Pluralism is said (p. 344) to be "in a way based on a monism," but this tie "is the most meaningless of all things; it is a mere possibility of the interaction or co-existence of the many". "If each of the many individual existences had never actually achieved interaction with the others, no world would have existed." But it is the *achievement* of this interaction that remains the puzzle. Dr. Schiller cannot regard God and the other Egos as so many *centres* of conscious activity in a *common* psychical Ground. This resource might prove useful indeed. But clearly with the elimination of the irreducible ultimate Egos or 'monads' Pluralism expires. If, however, there be no common Ground, how did God begin to take cognisance of the alien Egos? By what miracle of knowledge did He surmise anything *about* them before looking *for*

them? By what trick of telepathy across the void did He signify His existence and show that He meant to rule? Or was it the Egos, who by some unintelligible freak of chance, thrust the first notifications of their reality on His startled mind? Even then why should He take strange appearances arising within Himself as marks of alien activities and not as the creation of His own ultimate ego? And how could He re-act on and dominate the multitudinous hordes who were raining appulses on Him from the dark?

The personality of this God suggests a quaint reflexion. What a weird stroke of chance that this particular 'Ego' should be Divine by right of birth, while the other and dominated 'egos' fall, as strugglers of small account, between the millstones of the cosmic process. I note, however, that belief in "the unity of the divine person" is not a matter of principle (p. 361). We are allowed to hold that God is three or even to moot the hypothesis of a "heavenly democracy"—what I have discussed elsewhere as the "supreme society". But the issue is dismissed, perhaps too impatiently, as of "no human importance". Surely all issues which cause mental unrest are of importance. It must be admitted, however, that the breaking out of a further Pluralism *within* Dr. Schiller's God might add seriously to our intellectual anxieties!

This God is inferred from such facts of the world as are suggestive of superhuman Design. Let us concede that marks of such design are to be met with in Nature and History. Is this design necessarily that of Dr. Schiller's god? Much of the design seems hardly such as to warrant inference to a *supremely* wise and moral person. Further, one is bound to allow that a hierarchy of superhuman beings may lie between us and the supreme conscious agency in the Universe. And only "Providences" of minor sorts may be concerned with this planet. Anyhow it seems venturesome to infer a supremely wise and moral God from the 'design' alleged to show in connexion with this planet—so many failures, perverse growths and even abominations have to be reckoned with. Even Dr. Schiller himself, I understand, does not think that the puzzles of pessimism, as indicated in his fourth chapter, are fully dealt with in the later and constructive portion of the book. True; he offers a vastly better vindication of reality than does, say, Hegel, or T. H. Green, but he leaves, withal, many difficulties of no trifling moment on our hands.

William James, in discussing Fechner in "A Pluralistic Universe," contends that there is room for a long *hierarchy* of superhuman beings. If this be the case, polytheism rather than theism may be mooted when marks of design are to be accounted for. And there would be no call to suppose that all these minor gods are so wise and moral and powerful as to transcend our human powers of conception. Contrariwise, many of them (whether originally of human derivation or not), may not be more superior to us than we are, say, to the lower animals. Incidentally I note

that there is much in our planet's story, biologic and other, which suggests *experiment* rather than an assured wisdom working out a prepared plan. Such facts as the evolution of Dinosaurs and of the defective and barely satisfactory human body suggest the modifying design of imperfect minor gods rather than that of a supreme power.

Dr. Schiller regards the Immortality-issue as of the greatest importance. The metaphysical basis for the belief he finds in the *uncreated, uncaused* plural 'Egos' whose conscious manifestations show as ourselves. There are, he urges, degrees of immortality. The lowest forms of spiritual existence, *e.g.*, the amœba or embryo show too little and too poor content to feed a rich memory and, failing memory, persistence would, of course, be a farce. "On the other hand, we need not hesitate to attribute to the faithful dog . . . at least as much immortality as to the brutal savage, whose life has been ennobled by no high thoughts and redeemed by no elevating feeling." Dr. Schiller sees no reason why a "single ego should not pass through the succession of organisms and developments of consciousness from the amœba to man, and from man to perfection" (p. 388). He is, indeed, practically a believer in the doctrine of the evolution of the individual through a plurality of lives, though all these lives need not, in his view, be terrestrial ones. Farther on (p. 396) there is a luminous discussion of Heredity considered in connexion with this hypothesis of pre-existence and successive lives. Later in considering the metaphysics of the higher sexual love, he observes that "possibly this emotional impulse foreshadows the formation of coalesced existences of a higher order than our present partial and imperfect selves" (p. 407). A suggestion, like so many in this work, of great worth. May I suggest that the supreme finite god in whom Dr. Schiller believes, may be a "coalesced existence," a spiritual society, of this kind and not a private "personality," *which would necessarily be too partial and imperfect*, at all? Do we really desire to believe in a person who, by some arbitrary chance, is the unchangeable superior of all other conscious beings throughout the entire time-process and even beyond it?

The final goal of evolution is discussed in the "Conclusion". It is a perfect society of perfect individuals in which the four great ideals of knowledge, beauty, goodness and happiness are to be realised in a unity at once fusing and transcending them. It is to be a changeless state of equipoise and attainment. Shall I break on the sense of peace which is produced by this chapter by suggesting that we cannot well believe that the Universe is to show only one great Evolution-Era or Time-Process? The prospect of innumerable Days and Nights of Brahma may terrify, but are there not fairly substantial grounds for believing in them?[1] It may seem hard to "turn out" again after a Night of changeless peace, but

[1] *Individual and Reality*, p. 270.

even the fruition of an Evolution-Era, supervening, as it is said to do, on finite antecedents, can well be conceived to be of finite duration. The Ground, or as I should prefer to put it, the Cosmic Imagination, with the 'centres' of spiritual activity immanent in it, has to begin to change once more, remoulding reality on the lines of yet loftier creation. Its power to construct is not ended once and for all by its passage into the static phase.

Three excellent chapters on "Free Will and Necessity," "Choice" and "Science and Religion" conclude the volume. I will not dwell on their contents, as this notice is already drawing out to an inordinate length, but they will well repay close attention.

To conclude: The *Riddles*, while eminently suggestive and, at first sight, extremely venturesome in scope is really averse from dogma. The author, indeed, considers metaphysical speculation very risky and is fully aware that his bolder statements are truth-claims rather than truths. "The value even of the *constructions* lies largely in the *criticisms* of other views which they imply." But it is much to have broken new ground and to have taken theoretical risks which more conservative and less inspiring writers prefer to shun. It is necessary for some one to try his luck in paths where angels and even Hegelians fear to tread. The *Riddles of the Sphinx* has done all that its author had hoped of it. It has forced the conventional dry-as-dust philosopher to realise the way in which he must face the problems set by life, not giving us a stone where we need bread and not imagining that he will be allowed to substitute concept-play for investigations which ought to concern, above all else, the standing and the probable expectations of the Individual.

E. D. Fawcett.

The Application of Logic. By Alfred Sidgwick. Macmillan, 1910.

Mr. Sidgwick's book is an attempt "to state with a minimum of technicality the logical doctrines that remain when we discard those parts of the traditional logic which are misleading in application" (p. v). Believing that logic is "primarily a branch of knowledge intended to help us in distinguishing good and bad arguments" (p. 4), the author feels that "the old system has lost much of its former authority both as a court of appeal in real disputes and as a scientific analysis of real thinking" (p. v), and that in consequence we need "a thorough reconstruction, inspired by more attention to the difficulties of actual thinking and more desire to meet them" (p. vi). Whether in the long run Mr. Sidgwick's "reconstruction" is not so drastic as to demolish Formal Logic altogether is another question, but it will not be surprising if this is maintained both by the enemies and the enthusiastic partisans of that science.

The first and most important part of the work is really a criti-

cism of the syllogism. It is called "The Progress of Disputes"—a significant title, for by it the subject is at once removed from the sphere of schematism into that of concrete human argument. The secret of Mr. Sidgwick's method is disclosed in some words occurring on page 14. "The application of axioms therefore, instead of the contemplation of the 'truth' there may be in them apart from their application (or, when so applied as to meet with agreement), is necessarily the concern of any logic which attempts to consider fairly what each of a pair of disputants may have to say."

In Mr. Sidgwick's opinion the traditional description of a sound argument as distinguished from a faulty one which is summed up in the "form of the syllogism" is not so much untrue as inadequate. In any actual dispute the process of reasoning is more complicated than the old-fashioned logician supposes. The framing of syllogisms, that is the subsumption of particular cases under general rules, plays a leading part no doubt, but to construct an effective syllogism is a task beset by more difficulties than Formal Logic with its perfunctory list of "Fallacies" consciously recognises.

Most disputes according to Mr. Sidgwick run through something like four stages. (1) First there is the problem of simplifying the facts sufficiently to find rules under which they can be brought. (2) Then if a rule is alleged, the possibility of exceptions to it has to be considered. (3) In order to decide whether the disputed case is an exception or not a knowledge of its particular nature must be gained, that is to say its causal significance must be ascertained. (4) In the course of this investigation we are confronted with the problem of ambiguity. Has the "fact" been rightly classified as one of a class with certain characteristics, or have we been misled by an "accidental" resemblance?

(1) The best way to attack an opponent's contention that a given fact supports his conclusion is not always to elucidate the "major premiss" upon which he relies and disprove that. In cases where he employs a "chain of evidence," such as detectives forge in stories, such a procedure is clumsy. It would be unnatural to test the validity of the argument advanced by Poe's detective in the *Rue Morgue* by making it depend on the 'major'—"All cases presenting exactly the details found in the *Rue Morgue* are cases where a double murder has been committed on two helpless women by a large fulvous ourang-outang of the Bornese species escaped from a sailor belonging to a Maltese vessel" (p. 31). The proper procedure is to break up the complex facts of the case into simple units (or what can be taken as such) and consider what is implied in them. But in Formal Logic all facts are presupposed to be "simple".

Again when an argument from analogy is employed we cannot immediately pass to dispute the "major premiss". A necessary preliminary is to decide whether the case at issue has such an essential resemblance to the case maintained to be analogous

that we can bring it under the general rule which holds of the latter. In connexion with this Mr. Sidgwick shows in an interesting digression (pp. 34-37) that classification is itself only an extended use of analogy. Once a number of resembling facts are judged to be safely analogous they receive a common name. Thus balls which need to be played in a certain way by the cricketer are classified in time under the name 'yorker' (p. 35).

What is called "objecting to the thin end of the wedge" is really a form of the argument from analogy and like it is a process which comes before consideration of the syllogism proper. The point is "whether two cases widely apart on a scale are analogous" (p. 44) or not.

Lastly, just as a complex fact has to be analysed, so a fact which is really complex may be stated too concisely and need an expanded description. All this work is preliminary to the location of the "major premiss" and is not allowed for in traditional logic.

(2) Suppose then these previous questions have been solved and a general rule proposed to cover the particular case. We are then face to face with the possibility of exceptions to the rule. "Of course," says Mr. Sidgwick, "we might here if we pleased leave all these incompletely general rules out of account, following the custom of the older logic" (p. 59). But "it would be difficult to find an instance of a real dispute in which both parties restricted themselves to the prison house of the formal logician where nothing short of a strictly universal rule, free from all ambiguity, is recognised as a ground of inference" (p. 60). "Indeed the exercise of thought would be rare indeed if our reasoning powers had to lie dormant till they could be employed on perfectly axiomatic matter" (p. 61). How then is the universal application of a rule to be tested? The calculation of numerical probabilities is not practically very useful. No doubt the statistician and compiler of averages can employ it profitably and gauge the value of a principle by the number of exceptions. But this plan is useless in a particular dispute. For what we want to know then is whether here and now in this concrete case the rule is *trustworthy*. And for that we must appeal to "causal knowledge about the particular case. When a boat springs a leak no merely general rule about the normal buoyancy of boats will comfort us" (p. 72). We have here reached the crux for the defenders of the syllogism, the problem of "ambiguous middle term". No reconstruction of the form of the syllogism can guard it against the risk of this error. Only the application of the inference, its practical testing by results, can decide its validity by deciding its correctness *de facto*. If, for instance, it is proposed to employ a generalisation about "railway journeys" or "men" to a particular case, then it is never "merely *a* railway journey, *a* man, and so on" (p. 74), which constitutes the instance, but a heap of "individual peculiarities" (*ib.*), "and the question is as to the effect any of these particular

details may have on the rule 'If X then Y' as here applied" (*ib.*). Precisely such an unexpected detail may make the fact irrelevant to the rule, though the rule be (*e.g.*) about "guns" and the particular at issue be also called "a gun". The charge of ambiguous middle "amounts to no less than saying that so far there is no argument stated. Rules apart from some particular application of them, and facts apart from some particular rule or rules under which they are supposed to come, are not elements of any particular argument at all" (p. 79).

(3) Before returning to the question of "ambiguity," however, Mr. Sidgwick develops the point about the need of causal explanation when an exception to a rule is suspected. Here he passes from a criticism of Formal Deductive Logic to one of Formal Induction. His point here is that no plan for discovering the causal connexions of two facts is beyond the risk of error. "It is an excellent thing," he says, "to recognise the value of the method of Difference, and to try to apply it wherever we can; but we must not in our admiration for the ideal, slur over the fact that when we speak of applying it we cannot possibly mean more than applying it to the best of our (always incomplete) knowledge and power" (p. 93). This irreducible vagueness in the character of facts as known is ignored in Formal Logic. "In Formal Logic the fact A is the fact A, and there is an end of the matter; whereas in real disputes the difficulty is to make sure that in calling a fact 'A' in spite of all its intricacies we are doing it neither more nor less than justice" (p. 103). We may regard A as the cause of B, and stamp this power as one of its characteristics. Yet some unseen detail Z may be the real cause and an apparent "A" wanting this detail may fail to produce B, and so vitiate a syllogism having for its major premiss "All A's produce B". Thus to the postulate of the Formal Logician "A is A" the cautious reasoner will always reply that "A in one set of circumstances is not the same as A in another, with its corollary that A is not always A" (p. 110).

(4) Our discussion of causal explanation thus leads us back to the difficulty of ambiguity. And here the distinctions of Formal Logic are palpably obsolete and childish. Terms are for it either "equivocal" or "univocal," "equivocal" terms being illustrated by words like 'post' or 'pound' or 'note' (p. 115), the different meanings of which are so clear as practically to make them impossible sources of real or effective ambiguity. But the truth is no terms are 'univocal,' for "unless a word is a class name it has no descriptive meaning, while if it is a class name it necessarily ignores any sub-classes there may be within the class so named, and since all the members of any class differ from each other there is no class that cannot have sub-classes within it, if we choose to make them" (p. 119). Hence "all descriptive words are ambiguous; and so our class of univocal words has disappeared altogether" (*ib.*). And with it disappears the validity of the formal syllogism. For essentially it is a scheme of words and no arrange-

ment of terms can guarantee it against error in application, since the necessary limits of causal explanation prevent class names from claiming an absolute validity in reference to these instances. The syllogism is thus either misleading as suggesting that a verbal identity of the "middle" ensures a correct conclusion, or nugatory as representing merely an *ex post facto* description of a process which worked, not because of its form, but because the facts to which it referred justified its claim to apply to them.

This is perhaps the most important of the conclusions established by Mr. Sidgwick, and he contends that herein lies the essence of the doctrine of Pragmatism that truths must be useful. This phrase, he believes, "has never been intended to mean more than that expressed (or proclaimed) uselessness in a so-called truth is equivalent to confessed lack of meaning" (p. 147, footnote). A statement is a mere form of words till it can be shown to apply successfully to concrete instances.

Part 2 of the book, entitled "Obstacles and Cross Purposes," discusses, in the light of conclusions already reached, some of the commonest ways of unsound argument which prevent disputes from going forward. A chapter headed "The Search for a Meaning," shows how the use of ambiguous statements really deprives assertions of all meaning whatever. "Thus if two sorts of X are confused it may be objected that if A X only is intended we can agree with the assertor, while if B X is intended we cannot do so. In the former case there is no question in dispute; and therefore until the assertor chooses to explain which of the two assertions he intends, he is in effect making no assertion at all so far as you are concerned" (p. 159). And it is pointed out that no defence against the charge of 'ambiguity' is any use if it merely consists in an appeal to the definition of the words used. The statement "all X is Y" cannot be protected against an alleged exception by maintaining that the "correct definition" of X "expressly excludes any case which is not Y" (p. 170). That is just verbalism, and such an axiom's undeniability "has nothing to do with the nature of things" (p. 171); it "does not give information about anything except your arbitrary definition of a word or pair of words" (*ib.*). The upshot of this criticism is of course to deny the possibility of *a priori* universal truths which apply to the nature of things and are not only conceptual constructions.

Extremely interesting is the next chapter on "Begging the Question". There it is shown that the Formal Logician has no escape from the dilemma of considering all arguments as instances of *petitio* or none. This is because they cannot distinguish between the verbal form of an assertion and the actual intention of the assertor. Hence for them the syllogism itself becomes ultimately a *petitio*. For "either [a man] means to assert that all X is Y, and then it is clear that he cannot possibly know this unless he knows that the case S, which is admittedly a case of X, is Y—which is

precisely the question in dispute—or else he does not mean to assert that all X is Y, and then it may be asked, where is the major premiss for his syllogism?" (p. 204). To this Mr. Sidgwick's reply is: "Those who understand the difference between begging and raising a question find no puzzle here. They are able to distinguish between a right and a wrong *use* of the syllogism, and they see that a question can only be begged by a syllogism when doubts as to the truth of the premisses are denied a hearing" (p. 205). *Petitio* is not a question of form, it is the habit of dogmatically asserting the grounds of an opinion and refusing to leave them open to discussion.

A very valuable chapter on "Distinction and Definition" follows. It emphasises the difficulty of obtaining clear distinctions, and insists on the results of Darwinism as obliterating the firm outlines between different species (p. 224). The next point noticed is that "the difficulties incidental to loose distinctions can only arise when the distinctions are used" (p. 225). The trouble begins when a particular instance has to be classified, and then the more alert mind will recognise "that what is A and not B for one purpose, may be both A and B or neither for another" (p. 230). The commonest mistakes made in such instances are (1) confusing questions of fact with questions of definition, the vice of "verbalism". (2) Refusing to extend the common or "dictionary" meaning of a word in the light of fresh knowledge. (3) Uncritical confidence in the clearness of definitions. It has to be recognised on the one hand that "perfect and final definition is an ideal that is strictly out of reach" (p. 256), and on the other that "definition sufficient for human intercourse is all that is wanted" (*ib.*). For "where neither of two disputants discovers an ambiguity in a statement no pressure for greater definiteness arises" (*ib.*).

The work concludes with a section called "Some Technicalities and Doctrines". The most interesting part of this is a discussion on "Truth and Consequences," where the author lays down his relations with the Pragmatic school. To him the fundamental and admirable principle of Pragmatism is "that every statement (whether of rule or fact) depends for its meaning on the use it is intended to be put to" (p. 299). Otherwise expressed it is that "the meaning of every assertion depends on its special purpose or its special context" (p. 300). To assume that terms have a fixed meaning independent of their particular application is "to be compelled to neglect the chief risk in applying rules to cases—subtle ambiguity in a middle term" (*ib.*). The logician must never forget (what the argument of the whole book expounds and confirms) that "neither importance nor relevance are qualities which exist at large but only in relation to some purpose".

Here we must cease from the difficult task of extracting the more striking points of a remarkable book, every page of which is illuminating, and a model both of clear exposition and graceful style.

D. L. Murray.

Die Psychologie der Frauen. Von G. HEYMANS. Heidelberg, 1910. Pp. viii, 308. Price 4 marks.

γυναῖκα δ'εἶναι πρᾶγμ' ἔφη νουβυστικὸν.

PERHAPS one of the most curious psychological differences between man and woman is the fact that while men are never weary of "studying" woman, and publishing treatises about her, no woman, so far as I am aware, has ever attempted to study "man," and the day is probably far off when a treatise on the Psychology of "man" as distinct from "woman" will appear. This is perhaps because it is assumed that man represents the normal mind about which all Psychologists are engaged, in which case of course there is nothing to explain, while woman represents a deviation which calls for special explanation. The truth would perhaps be better represented by assuming that the normal mind of the psychological textbook is neither male nor female, and that man and woman both deviate from it in certain assignable respects.

As a matter of fact any impartial study, such as the book before us, finds itself dealing almost as much with man as with woman; for every quality asserted or denied in woman, its presence is denied or asserted in man. The difference is that while for the most part the data are accepted as crude fact in man, they are made the occasion of elaborate explanations when asserted of woman. It is this which justifies the title of the book.

I have said that this is an impartial study, and should like to emphasise the fact that except for the fundamental presupposition just mentioned the work is eminently free from all trace of partisanship. The author develops his subject without fear or favour, and in doing so distinguishes himself from the majority of writers on his subject. Many of his quotations from these suffice to show with how much bitterness and prejudice the question has generally been handled; a bitterness and prejudice which are hard to account for. Dr. Heymans on the contrary gives us the impression that he does not dislike women, feels no irritation when they pass their examinations better than men, and does not feel himself essentially superior to them. He even endorses Lotze's statement: "es dürfte kaum etwas geben, was ein weiblicher Verstand nicht einsehen könnte, aber sehr vieles, wofür die Frauen sich nie interressieren lernen". His explanation of their failings, if not invariably correct, always shows an attempt at kindly understanding, as *e.g.* when dealing with their traditional unpunctuality. In many instances indeed he refuses to accept the traditional account, and is able to bring forward evidence to refute it. This is notably the case with respect to the time-honoured theory that woman is more given to lying and deceit than man. The ordinary procedure is of course to accept the theory, and explain it ontogenetically or phylogenetically, by heredity or circumstances or innate depravity. Dr. Hey-

mans begins by examining his evidence, and finds as a matter of fact that according to it women are on the whole more truthful and trustworthy than men. A further analysis of his data shows him that this superiority of the women belongs entirely to the younger generation, from which he concludes that women have naturally a stronger love of truth than men, and that this quality is increasingly able to assert itself owing to the growing equality of the sexes.

In what does the evidence consist upon which this study is based? Primarily of two separate inquiries or investigations. The first is an inquiry into the inheritance of psychical qualities, conducted by requesting medical men to answer a long list of specific questions in respect of each member of some family well known to them. Answers were received referring to 458 families, containing 1,310 males and 1,209 females. The second investigation referred to the development of character between the years of twelve and eighteen, and information was given by the teachers of fifty-four schools containing 2,757 male and 1,103 female pupils. The results of these two investigations are used to confirm or to check data derived from tradition, statistics, biographies, etc. It will be seen that neither investigation is concerned primarily with the nature of woman as such, a fact which makes us much more willing to accept the data as trustworthy, so far as they go. That they are far from sufficient as a basis for exact science Dr. Heymans himself points out.

Where I think this study chiefly fails, however, is not in the data, nor in the manner in which they are handled, so much as in the fundamental assumptions employed to explain them. Briefly put, Dr. Heymans attributes the qualities characteristic of woman mainly, if not entirely, to her greater "emotionality," and to the limitation of consciousness ("verengtes Bewusstsein") induced by it. But he nowhere satisfactorily (to my mind) establishes either that, or in what sense, woman is more emotional than man; nor that or how the field of consciousness is narrowed by emotion.

Let us take this second assumption first. General Psychology teaches us, we are told (p. 44), that the more intently attention is directed to a content of consciousness, the fewer the number of other contents which can find room in consciousness; that degree of consciousness and extent of consciousness stand in inverse relation. One might as well say "the brighter the lamp the less space it illuminates". To take Dr. Heymans's own instances. If we are absorbed in reading, he says, we may fail to hear not only what is being said around us, but what is actually said to us. But that is not because consciousness is narrowed. Say I am sitting in a room, where the contents of my consciousness consist of a few feet of wall and floor space and the occasional voice of an uninteresting companion. I cannot endure the confinement and take up a novel. At once my consciousness expands to include a burning village, a Russian spy, heroic rescues, fire brigades, motor cars, revolvers,

assassinations and suicides. All this in exchange for a few feet of wall and floor space, and an uninteresting voice! No wonder my attention refuses to surrender the spacious fields in which it is disporting itself, and submit to the confinement with which the companion threatens it. Or take the student absorbed in a difficult problem (p. 46). What a paradox to say that because his eyes are fixed upon his book and he does not hear the clock strike his consciousness is narrowed! It may be extended to include whole epochs of history, or be summoning to his aid great stores of scientific knowledge; if it is not doing something of this sort his chances of solving his problem are very remote, and he is probably falling asleep. In short, the concentration of attention may mean withdrawal from one world, but unless it is due to wholly irrational causes it means also entry into another world which may be a very much wider one. It seems probable that "General Psychology" in laying down its axiom has had in mind some such irrational process as the concentration of attention upon a bright object in hypnotism; otherwise when the field of consciousness diminishes, as in sleep, attention also fails.

The next step in the argument is that emotion increases the degree of attention, and therefore according to the axiom narrows the field of consciousness. Finally comes the statement that women are much more emotional than men. "Nun herrscht aber in der Psychologie der Geschlechter über kaum einen Punkt so weitreichende Übereinstimmung als über die grössere Emotionalität der Frauen." Unfortunately we are given no explanation of what is meant by "emotional," and in the absence of any indication to the contrary we can only take it in the straightforward sense of having more capacity for emotion. But if to woman is yielded the greater capacity for emotion, how does it come that all the greatest works of emotion are claimed, and rightly claimed, for man? Or will it be seriously maintained that more emotion is expended in a fit of crying than in a poem, in an outburst of temper than in a symphony; and shall we take the common-place view that to respond tearfully to a beggar's appeal for a copper proves a warmer heart than to spend a lifetime in devising a remedy for pauperism? It is possible, indeed, that those who claim pre-eminence in emotion for women have something deeper in mind, that they would place against man's creations in art, or music, or literature the woman's creation of the human being she has brought into the world and reared with a mother's devotion, but I do not think this is what is meant. The "measure of emotionality" in the woman is not its creative power, but something much more trivial. It is that "she reacts emotionally upon a much weaker stimulus than man, and much more strongly upon the same stimulus" (p. 66). I suspect that the truth contained in this statement would be better expressed by saying that she reacts much more *immediately* than man, and that this would apply in a much more general sense to

all her reactions, not only the emotional ones, to stimuli which interest her. (It is true that the results of experiments are said to show that the reaction time of woman is slower than that of man, but experiments on reaction time are apt to be of an eminently uninteresting nature to the subjects of the experiment.)

Finally, I question the statement that emotion tends to narrow consciousness, and so accounts for many of the traditional characteristics of women, such as prejudice, hasty judgment, exaggeration, narrow-mindedness, etc., which depend upon losing sight of "the other side of the question". If one examines one's own experience it is in moments of excitement that consciousness expands, that ideas and arguments are most copious, that insight is quickened, in short that consciousness is widened to the fullest extent of which we are capable. It is rather the sluggishness of thought in apathetic minds which makes for real one-sidedness, and which no argument can break down.

It is very possible all the same that many of the characteristics of woman *may* be due to a narrower consciousness, and that again may be due to the more immediate response to stimulus. More especially her inaptitude for abstract thought (so far as it exists) might be accounted for in this way; for abstract thought depends ultimately upon the power to maintain an interval between stimulus and reaction; the interval which gives time for the idea to precede the action. If there is this greater immediacy of stimulus even in a slight degree its effects would be cumulative in nature, and would to a great extent coincide with the results attained by Dr. Heymans.

HELEN BOSANQUET.

Critique des Conditions de l'Action. L'Erreur Morale établie par l'histoire et l'évolution des Systèmes. By MAURICE PRADINES. Paris: Alcan, 1909. Pp. viii, 702.

Critique des Conditions de l'Action. Principes de toute Philosophie de l'Action. By MAURICE PRADINES. Paris: Alcan, 1909. Pp. ii, 305.

IT is in France that the revolt against intellectualism which is so characteristic of modern thought has first become articulate, and been represented by the largest number of philosophic luminaries of the first class. While in Germany the tradition of Kant and the classical period proved too flattering to national pride to permit of the development of much really original or progressive philosophising, and the English were content to import from Germany effete and uncongenial philosophies in order to support a theology they afterwards betrayed, the French thinkers were wise enough to follow the rising star of science and set themselves to understand the methods which had led to the grand extension of human knowledge and human power which marks the nineteenth century. Renouvier

(who was one of the chief masters of James), Boutroux, Bergson, Poincaré, Le Roy, to mention only the leaders, have laid deep the foundations of what will some day be recognised as the only truly scientific and thinkable account of the nature and function of the human intelligence, and it may reasonably be anticipated that by that time Prof. Pradines will rank with these masters. Certainly he has written a work (for, though each of his two books may be read separately, their argument is really continuous) of remarkable erudition, brilliance, acumen and insight, and can hardly hereafter fail to fulfil the promise of this notable *thèse de doctorat.*

Of all the French critics of intellectualism M. Pradines is perhaps the most incisive, thorough-going and advanced; yet he is also the most formidable, because his line of attack outflanks its chief defence, *viz.*, that in defending its dogmas it is defending the intellect against the aggressions of unreason. M. Pradines makes it very clear that he is attacking not reason but rationalism, and disparaging not intelligence but intellectualism. His fundamental position is that every thought (and so every cognition) is an *act*, and that intellectualism has *falsely* described it as something which cannot be an act. Intellectualism having given a radically false account of knowing, has thereby incapacitated itself from understanding action altogether. The impossibility of a theory of action is thus the *ratio cognoscendi* of the falsity of the intellectualist theory of knowledge which forms its *ratio essendi.* All this M. Pradines sets himself to show on a grand scale, by examining the historically important systems of ethics from Plato to the present day, and showing that whether they are called rationalist or empiricist they are all intellectualist, and doomed to futility and contradiction.

The rationalist tradition originates with Plato, who (especially) in the *Phædo* describes the truly good life which attains to knowledge of the Ideas as a complete renunciation of earthly existence. The ideal of life is thus placed in a condition which is not and cannot be actual, and the *a priori* rule of the moral life consists in approximating as nearly to this ideal as terrestrial conditions permit. But this is to make moral effort self-defeating. The moral rule has to profess to be universal, whereas all action is particular. Hence the rule can regulate the action only by excising its particular circumstances. But this is to destroy its essential character. Hence the ideal always in fact becomes inapplicable to the actual conditions of sensible experience. Or otherwise, the Idea, ideal, reason or rule all mean the same thing, *viz.*, the demand for absolute determination and prediction. But the real is contingent and has ὕλη. It is therefore *pro tanto* 'irrational,' nor can the theory, whether of knowledge or of action, ever account for that in it which makes it more than a vain repetition of the ideal.

The alternative is empiricism, as Epicurus had the merit of perceiving. But he had not the courage to be radical enough. He relapsed into the ideal of rationalism when he postulated that events

should be really determined. His 'atom' is merely the 'idea' turned into a *thing*, and just as much of an ideal construction. Similarly in his ethics he begins with the pursuit of pleasure, but ends in complete renunciation, which is precisely the conclusion of Plato's rationalism.

Similar oscillations and self-defeating efforts M. Pradines traces throughout the history of philosophy, passing in review the Stoics, the New Academy and the Sceptics (especially Ariston, Carneades, and Pyrrho), Descartes, Spinoza, Locke, Leibniz, Newton, Hume, Rousseau, Kant, J. S. Mill, Spencer, and the sociological ethics and traditionalism of the day (Durkheim and Levy-Bruhl, Taine and Bourget). This portion of his work abounds in incisive criticism and epigrammatic phrases, and forms a valuable contribution to that rewriting of the history of philosophy and correction of its intellectualistic bias which has become so clearly necessary. But the plan of the works involves a good deal of repetition, and there is one notable omission. Aristotle at any rate cannot be charged with overlooking the fact that action deals with the particular, and provides for this purpose a special faculty of φρόνησις. M. Pradines would doubtless reply that φρόνησις is a statement of the moral problem, and not its solution.

What then is his own remedy? Action is all including, and the source of all knowledge. Knowledge indeed is "nothing but a form of action, which has come to forget its own nature" (*Erreur Morale*, p. 499). Laws, necessity, determination, truth, ends, goods, mathematics, novelty, are all its creations and its instruments (*Err. Mor.*, pp. 409, 435, 74, *Principes*, pp. 9, 121, 237, 12, 258). Action as such is as free and undetermined as is all reality. We and our thoughts are thus only acts of the universe (*Princ.*, p. 152), freely directing our course. Now acting means *risking* (*Princ.*, p. 222), and so therefore does knowing. Let science then repudiate the false ideal of copying reality with certainty: instead of perishing of its certainty, let it live on its doubts (*Err. Mor.*, p. 501). For "it is doubt which creates certitude, and hypothesis truth" (*Princ.*, pp. 7, 299). Science, being but the perfect expression of reason, which is practical, has for its aim to overturn Nature and to liberate man (*Err. Mor.*, pp. 690-691).

It will hardly be disputed that all these dicta are in a high degree pragmatic. Yet M. Pradines at times criticises pragmatism as a sort of scepticism and irrationalism, which "employs action to ruin reason" (*Princ.*, p. 79). His standard pragmatist is apparently Prof. Bergson, whom he criticises at some length, and Le Roy, whose pragmatism he probably suspects as a Catholic device, despite Rome's present campaign against Modernism. The Anglo-American pragmatists he hardly mentions (except James once or twice), and does not appear to know. Yet his affinities to these are very marked. He is almost as indefatigable as Dewey in pointing to the essential connexion between knowledge and doubt, and

to the continuous activity of reconstructing beliefs, which makes its own ends and goods as it proceeds. Nor have I been able to find that he anywhere takes up an epistemological position that I should not be happy to help him in defending. In particular his insistence that all knowledge is an act, and that no knowledge becomes intelligible until it is conceived as a personal choice, seems to me to be of paramount importance. And I cannot regard his repudiation of scepticism and irrationalism as differentiating his pragmatism from mine, since I have all along insisted that it is as a *theory* of knowledge that intellectualism fails, and contended that scepticism and irrationalism are the inevitable consequences of absolutism, while it is only by recognising action as the *whole*, and not the (? better) half, of life that a rational theory of life becomes possible at all. Whether or not therefore M. Pradines consents to adopt the ugly name of pragmatist, there can be no doubt about the character of his views.

Finally as regards the moral crux to which M. Pradines has drawn attention, the fact that the moral ideal has to be found in the actual and yet can never be fully found there, nor erected into an ideal without an act of human choice, is no doubt significant. But it would not explain the extraordinary inefficacy of moral theories, but for the further fact that they have always attempted to guard their ideal 'principles' against profanation (*i.e.* correction) by the effects of experience and to render them immutable, by rendering them inapplicable. And though M. Pradines sees that all the principles he criticises have in fact been inapplicable, he does not make it sufficiently clear what a deadly defect this involves. His argument would have been greatly strengthened here by a reference to Alfred Sidgwick's great discovery that inapplicable principles are in fact unmeaning. If then moral principles, which apply (loosely and improperly) to everything in general but precisely to nothing in particular and cannot determine any particular act, are in reality unmeaning, it is clear that the defect both in rationalist ethics and in rationalist logic is at bottom one and the same. The theory cannot really be applied to the facts of which it claims to be the theory; it is inapplicable, and so unmeaning. In Kant's case this has become pretty notorious, but the other rationalisms are no better off. Nor can they escape from this position without stultifying their essential motive. For the root impulse of rationalism is precisely the desire to eliminate *risk* and to get a guarantee of certainty. '*A priori*' cannot be defined except as the postulated satisfaction of this desire. If however all real thought and action essentially involve risk and choice and a possibility of error, it is clear that rationalism, in evading the demands for a definition of truth and for a distinction between truth and error, is nothing but an attempt to abstract from the conditions of real thinking and acting. In order to avoid in advance the possibility of error, it paralyses both thought and action, and takes refuge in the meaningless.

F. C. S. Schiller.

VII.—NEW BOOKS.

Proceedings of the Aristotelian Society. New Series, vol. x. Containing the Papers read before the Society during the Thirty-first Session, 1909-1910. Williams & Norgate, 1910. Pp. 300.

In his presidential address, 'On Sensations and Images,' Prof. Alexander returns to his thesis of the previous year, "that the objects of apprehension are non-mental" or "physical". In place of a direct reply to Dr. Stout's objections, he prefers to develop the inquiry further in view of such difficulties as proceed from the phenomena of sensations and more especially of images. The aim throughout is to show how this non-mental character may be ascribed to the object in each of its various forms, whether as sensation, perception, image, or thought, and in face of the "subjective elements in experience" revealed by "the all-pervasive principle of interpretation" and the "personal elements" which lie at the root of error and illusion. The general direction of the argument may be indicated by reference to the writer's central assumption that mind and its object are distinct "things in a world of things," and that the having an object in any sense means neither more nor less than "the togetherness" (or "copartnership in one universe") "of the mind and some non-mental thing or object". This fundamental restatement of the case enables the writer to throw the incubus of responsibility as regards the form of experience upon the special mode of this "togetherness" and to preserve intact the mental and non-mental sides of knowledge. Mr. G. E. Moore discusses "The Subject-Matter of Psychology," and is answered in the tenth and last paper by Prof. Dawes Hicks. Starting with the assumption that Psychology has "a subject-matter of its own" which consists of mental or psychical "entities," Mr. Moore proceeds to classify entities according as they are undoubtedly mental or doubtful mental entities. The former are "acts of consciousness," the qualities which distinguish the latter (*e.g.*, what distinguishes mere consciousness from belief or willing), and any collection of mental acts which constitutes a unity. Among doubtful mental entities are mind itself, the sensations (which Mr. Moore prefers to call sense-data) and the "content of an act of consciousness". Prof. Dawes Hicks maintains that the unity and continuity of consciousness are more fundamentally "mental" than any "acts of consciousness". He contests the separation of act and "content" and establishes the distinctiveness of content and object. The division of entities into mental and physical need not, as Mr. Moore thinks, be exhaustive, and content belongs to neither head. Mr. Moore's method of defining and distinguishing "acts of consciousness" is criticised, and his limitation of Psychology to "mental" entities is controverted. The third paper, by Mr. William Brown, is on 'Epistemological Difficulties in Psychology'. Mr. Brown argues against the definition of Psychology based on process rather than content. He maintains the necessity of an objective system

of measurement as against a purely introspective Psychology, and, accepting Prof. Alexander's theory of the physical nature of content, indicates a means of estimating mathematically the corresponding conative processes from their physical results. Mr. A. D. Lindsay writes on 'Kant's Account of Causation'. The significance of the distinction between phenomenon and noumenon, by means of which the causal antinomy is resolved, is found in the limitation of the principles of the understanding to perception. The continuity involved in causal change is an actually observed continuity. On the basis of this view Mr. Lindsay shows how for Kant the principles of mechanism and teleology are "regulative principles of the application of the general law of causation to particular instances". In a paper on 'Bergson's Theory of Instinct,' Mr. H. Wildon Carr argues that Prof. Alexander's theory, as distinct from either idealism or the ordinary realism, furnishes a possible basis for admitting Bergson's inclusion of instinct in knowledge. This is followed by a paper on 'Science and Logic' by Mr. E. C. Childs, who maintains that Mathematical Induction is founded on a synthetic judgment *a priori*, and that this is the type not only of mathematical procedure but, in an approximate form, of physical and chemical reasoning. The seventh paper, 'Some Philosophical Implications of Mr. Bertrand Russell's Logical Theory of Mathematics,' by Mr. S. Waterlow, is divided into two parts, in the first of which the writer examines Mr. Russell's claim that infinity and continuity as defined by modern mathematics are based only on the primitive logical notions and are free from antinomy. The proof that infinity is theoretically possible is then used as a starting-point for an inquiry into the nature of what actually exists, the contention being that "some of Russell's arguments perhaps go some way towards making it probable that if anything exists, then it is either an indivisible term or a whole composed of indivisible terms". This position Mr. Waterlow elaborates in the second part of his paper, in special connexion with the arguments which go to show that relations are "genuine entities" having "absolute metaphysical validity," although his conclusions are modified by the consideration that the relation of part and whole leaves open "the abstract possibility of a whole composed of an infinite number of parts no one of which is indivisible". Mr. Waterlow's paper is criticised briefly by Mr. Shadworth Hodgson, who vindicates the position of Philosophy as dealing only with knowledge in the widest sense, *i.e.* as based on experience, against the attempt to limit it to the procedure by concepts. A discussion on the question, 'Are Secondary Qualities Independent of Perception?' is opened by Dr. T. Percy Nunn and Dr. F. C. S. Schiller. Dr. Nunn maintains the direct extramentality of sensation as against Prof. Stout's belief in "the existence of an extra-mental reality correlated but *not* identical with the sensational quality". Mr. Schiller contends that in the end Dr. Nunn's view, by ignoring the distinction between the *claim* and the *validity* of an experience, completely destroys the distinctions which lie at the basis of truth and error, and is, therefore, theoretically and practically suicidal.

A. A. B.

The Use of the Theory of Correlation in Psychology. By William Brown, Lecturer on Psychology, University of London, King's College. Privately Printed at Cambridge University Press.

This work is a thesis approved for the degree of D.Sc. in the University of London. The first part of the book is purely mathematical and contains a useful exposition of the main principles upon which the theory of

Correlation rests, together with proofs of the formulæ, based partly upon the work of Prof. Karl Pearson. There is, further, a discussion of the work of Dr. Spearman and of Prof. Karl Pearson's criticism of Spearman's well-known method of arranging the groups of individuals in ranks according to merit and then applying his "footrule" formula—

$$R = 1 - \frac{S(g)}{\frac{1}{3}(N^2 - 1)},$$

where $S(g)$ denotes the sums of the "gains" in rank of the second series over the first and $\frac{1}{3}(N^2 - 1)$ is the sum of the gains to be expected if there were no common determining factor in the two operations or capacities to which the orders of merit refer.

To deal fully with the points discussed, here as earlier in the book, would require an expert's knowledge of mathematics. But Dr. Brown's criticisms as to the disadvantages of the methods of ranks (of which by the way Dr. Spearman is fully aware; see his recent articles in the *British Journal of Psychology*) seem to have undoubted weight. In obtaining correlations in Experimental Psychology classes the reviewer has been struck with the obvious inadequacy of a difference of one or two places in rank to represent actual difference of performance between individuals; indeed every schoolmaster knows it. On the other hand, it is interesting to note that in a recent elaborate research by Mr. Cyril Burt many correlations were calculated both by the method of ranks and by the more elaborate methods, and the discrepancies were found to be "practically negligible" (*British Journal of Psychology*, vol. iii., p. 107). But the doubtful accuracy of mathematical formulæ is scarcely more serious to the statistician than the vagueness and variability which still remain in the ways of measuring some of the capacities among which correlations are sought. Particularly does this refer to estimates of "General Intelligence". Dr. Brown obtained his grading for "General Intelligence" from lists drawn out by only one teacher in one of two schools where experiments were performed, whilst in another school two independent lists by different teachers were used. Mr. Burt, in his recent research, discussed by Dr. Brown, relied mainly upon lists drawn up by the headmaster, but for the purpose of mathematical correction he also obtained one by the form masters, and one drawn up by two of the school-boys to whom was addressed the question, "Supposing you had to choose a leader for an expedition into an unknown country, which of these thirty boys would you select as the most intelligent? Failing him, which next?" and so on. The headmaster relied chiefly upon the class lists in the case of Mr. Burt's experiments. But Dr. Brown's lists were apparently made by teachers without direct reference to school marks—at any rate in one case General Intelligence only shows a correlation of ·64 to school marks, and in the other case of ·78. Now it is obvious that individual ways of judging general intelligence, in so far as made independently of the records of school-work, may vary enormously. And this must remain a difficulty in the way of comparing the results of various investigators as to the correlations between general intelligence and the various mental tests. But this need not apply to the correlations between the various mental tests themselves, and these are both interesting and important. Dr. Brown used the following tests among others: Speed and accuracy of adding; crossing out certain letters in a page of French; bisection of lines; memory for poetry and mechanical memory, and two optical illusions.

In the case of boys, the highest correlations with general intelligence were given (1) by Ebbingham's "Combination Test" (inserting suitable words in a passage of continuous prose with about one-quarter of the

words replaced by blanks); (2) by memory for poetry, and (3) by mechanical memory.

In the case of girls, mechanical memory gives the highest correlation with intelligence, the Combination Test comes second, the poetry test not having been given. One of the most interesting points is the notable differences shown by the two sexes, the girls giving negative correlations in a number of cases where the boys showed positive correlations, though in the case of college students, also tested by Dr. Brown, there was a tendency for the women to show higher correlations than the men.

Perhaps the most important result of Dr. Brown's investigation lies in the fact that it affords no evidence of a "hierarchy" of correlations; *i.e.* there is no evidence of a "common factor" as, for example, "Voluntary Attention" entering in varying degrees into the various processes tested. Thus the research is in conflict with the results of Mr. Burt. Dr. Brown, however, finds that the tests fall into sub-groups, correlating highly among themselves but not at all highly with the members of other sub-groups, *e.g.* one group comprises School-marks, General Intelligence, Mechanical Memory and Combination Test.

But the definite results one is able to quote do not give a fair idea of the importance of such work as that which Dr. Brown has carried out. Much work of a similar nature may have to be done, with perhaps often little to show for it, except negative results, or modifications of previous ones. But few who have looked carefully into the matter can doubt the ultimate utility of such investigations, both for the science of Education and for general Psychology.

C. W. Valentine.

Modern Theories of Religion. By Eric S. Waterhouse, M.A., B.D. London: Charles H. Kelly, 1910. Pp. xi, 448.

Mr. Waterhouse has written a good book, which those interested in the subject may consult with advantage. The first part of the volume, which runs to nearly three-fourths of the whole, is a "History of Modern Religious Philosophy". The second part is entitled "The Construction of an Empirical Religious Philosophy". The survey of Modern Religious Philosophy, though it lays no claim to completeness, combines careful presentation with criticism: it is designed to lead up to the constructive theory which is outlined in the latter part of the book. The writer's own philosophical leanings are frankly avowed in the Preface. After acknowledging his indebtedness to the late Prof. James, Mr. Waterhouse goes on to say: "Whilst I cannot count myself entirely at one with the pragmatists, the method I have adopted is mainly pragmatic, and I know no other method which is more able to do justice to an empirical religious philosophy". But whether the reader agrees with the pragmatic method or not, he can cordially endorse the author's conception of what is presupposed by a religious philosophy: "Religion must be apprehended as a concrete fact of experience, and when psychology and history have delivered their findings, a religious philosophy is necessary to deal with them". To the present reviewer at all events it seems clear, that much important work may be done by the psychologist in exhibiting the workings of the religious consciousness without involving a specific metaphysical theory, and it is certain that the speculative theory should follow the psychological treatment of religion. At the same time Mr. Waterhouse does not sufficiently recognise that psychology and philosophy touch one another so closely at points, that in practice it is difficult to keep them apart; and the psychologist will be found drawing con-

clusions concerning the ultimate nature of religion while ostensibly confining himself to his own sphere. The use made by Prof. James of the doctrine of the subliminal consciousness is a case in point.

The stronger part of the book is the History. The author has had to exercise some selection on the material, but, beginning with Schleiermacher, he has dealt with the more important contributions to the subject. Alike in exposition and in criticism he shows knowledge and discernment. The English reader will be especially interested in the examination of the philosophical movements bearing on religion which have appeared in this country during the last generation. Mr. Waterhouse deals with Ritschlianism and Neo-Hegelianism, and takes up in succession the work of Martineau and Eucken, the Pragmatism of James and Schiller, and Personal Idealism as represented by Dr. Rashdall. Naturally one does not agree with everything that is said. One may demur, for instance, to the plea for the ultimate reduction of judgments of fact to judgments of value. But, taken as a whole, this is a judicious and a sympathetic survey, and it is likely to prove useful.

In Mr. Waterhouse's own suggestions towards a religious philosophy the influence of James is apparent; but the discussions are somewhat slight and the treatment is not full enough to be satisfying. The writer rather seeks to offer hints, to indicate points of view, and to make plain the lines on which a solution of problems is to be found, than to develop a theory by close and sustained thought. In two chapters he deals with the Psychology and with the History of Religion, treating them as complementary and preparatory to that empirical Philosophy of Religion, 'suggestions' towards which are contained in the concluding chapter. The remarks on primitive religion give the impression that the writer is not quite so sure of his ground as in other parts of his subject. For example, the references to Animism suffer from lack of a distinction between Animism and Spiritism, and to take the metaphor about Animism being 'a primitive philosophy' as a reason for supposing a pre-animistic religion is unjustifiable. Nor can I follow the argument that magic, in the order of development, is subsequent to religion. The concluding chapter is in close touch with contemporary thought. One point deserves notice. Mr. Waterhouse is strongly in favour of an empirical religious philosophy based on psychology and history. Begin with religious experience, he urges, and let your philosophy justify itself by its results and by its fidelity to facts. But facts are not merely passively apprehended: they depend to some extent on the knowing and interpreting mind, and Mr. Waterhouse admits that a religious philosophy must select, discriminate, and restate facts. The principle of selection and valuation cannot be purely empirical: it implies some constructive conception of the ultimate postulates on which religious experience as well as other experience rests,—a conception which gives a deeper meaning to the facts themselves.

If, as seems likely, this is Mr. Waterhouse's first book, it is a promising piece of work. It may be hoped he will ere long fulfil his purpose of dealing more fully with the subject.

G. Galloway.

The Spiritual Nature of Man. By Stanton Coit, Ph.D. The West London Ethical Society, 1910. Pp. 112.

Dr. Coit has been long associated with the Ethical Society movement in London, and in this booklet he has expressed his ideas on the source and working of spiritual life. Though the reader may disagree with Dr.

Coit's 'message,' he will find him a very clear and attractive expositor. The author of course rejects the notion of any transcendent world, any order of existences higher than the present order. "The affirmation which, in my judgment, the nations wait for, is that finite human intelligences, co-operating for the common ends of mundane existence, are themselves of infinite worth and of ultimate and absolute reality, in the same sense in which such assertions have been made concerning an infinite Ego or Creator" (p. 15). About the mystery of communication between separate selves Dr. Coit has interesting things to say, but he recognises that the separation cannot amount to complete exclusiveness. Underlying the differences of psychical subjects there is an identity, and we are told that finite intelligences are split off from the common mind of society. It is this General Mind, or what is termed the Group Spirit, a spirit that is super-personal, which, according to Dr. Coit, must take the place of the older conception of Deity. In contact with this inspiring Spirit man overcomes his native selfishness, and by absorption into it he can even lose the need for individual affection. The Group Spirit has, it seems, its times and seasons, and its manifestation should be cultivated by frequent meetings of the faithful. Whether this conception of a General Mind or Group Spirit is tenable, and whether faith in it is better founded than faith in a personal God, are questions no doubt on which much might be said. But I may remark in passing that Dr. Coit's assertion (p. 87) that the religions of the past can only be understood "as disciplines devised by statesmen to help nations in the struggle for existence" is not even superficially plausible. The roots of religion go far deeper than statecraft. For the rest Dr. Coit writes suggestively of the psychic environment and its importance. He thinks that, "When the psychic *milieu* becomes a truly spiritual environment, in the ethical sense of the word 'spiritual,' it will be counted divine".

G. G.

The Idea of God in Early Religions. By F. B. Jevons, Litt.D. Cambridge: The University Press, 1910. Pp. x, 170.

This is one of the Cambridge Manuals of Science and Literature, and consists of five chapters. Each chapter is devoted to the Idea of God as it appears in some aspect of early culture, for example, in mythology, in worship, and in prayer. All that one could expect in a book like this is a clear and convenient presentation of the materials in the light of recent research. Something more might perhaps have been done in the book to exhibit the connexion and development of the different ideas of God in primitive society; but Dr. Jevons has brought together the main facts and stated them in a way which will be helpful to the general reader. It is satisfactory to find that the exaggerated claims made for Totemism by the author in his *Introduction to the History of Religion* (1896) are not put forward here. In a book dealing with primitive ideas it is not surprising that some statements should provoke question. When Dr. Jevons says that "from the outset, the object of the community's worship had been conceived as a moral power," the assertion surely requires explanation and qualification. Again, while Dr. Jevons is quite justified in distinguishing Magic from Religion, he does not seem to recognise sufficiently the close connexion of religious and magical ideas in the savage mind. This little volume, however, may be recommended to those interested in the subject. It has an Index and a Bibliography, though the latter might easily be improved.

G. G.

Creative Evolution. By Henri Bergson. Translated by Arthur Mitchell, Ph.D. Macmillan, 1911. Pp. viii, 425.

Dr. Mitchell tells us that his translation has been revised by Prof. Bergson, by Mr. Wildon Carr (whose dialectical acuteness is so well known to members of the London Aristotelian Society) and others; and that he received 'illumination of much that was dark' from William James, who first effectively made Bergson known to the English public. With such collaborators his work could not be altogether unsatisfactory; and in fact it may be admitted—and with pleasure, since no better translation is now possible—that the present work will convey Bergson's thought tolerably well to English readers and inspire them to re-think it for themselves and to search in his other works for its completion. Nevertheless it is not the work of a translator equipped with a full knowledge either of his own language or of French. Above all its does not seem to have been inspired by that enthusiastic admiration of its original, that determination to get at every element of its meaning, which can alone produce a perfect translation. We find mistranslations which must be due to carelessness, and mistranslations which further study of the same page would have shown to be incorrect. We find other mistranslations showing a want of elementary mathematical and biological knowledge. It is well to have—and we all need to have—advisers to whose larger knowledge we may appeal for 'illumination' on dark places; but we must have some knowledge to recognise what is dark.

It is carelessness of an irritating kind when an emphatic phrase like 'sans doute' is either omitted (p. xiii) or translated, as it usually is here, by 'probably'; when 'thèse' is rendered by 'argument' (26); when for 'l'évolution au cours du trajet' we get the unmeaning 'evolution during the course of progress' (55), or 'pulverised explosions' for 'éclats pulverisés' (103); or 'incommensurably' seemingly in the sense of 'immeasurably' (*ib.*). In *Év. Créa.* (217), Bergson says that on a true view of the functions of philosophy and science respectively, each of these 'se relève'; in the context this means (and the whole tenor of the work shows the same) that neither is science merely relative nor is it so much the entirety of absolute truth as to make philosophy mere emptiness; both science and philosophy rise again from the blows that seemed to fell them; Dr. Mjtchell says, both are 'heightened'—whatever that may mean. In *Év. Créa.* (392), Bergson uses the mechanic's phrase, 'ne laisse-t-elle pas de jeu' for things fitting so accurately that their relation is absolutely fixed and leaves nothing undetermined; the English 'it leaves no play' is less elastic in its use; at least we doubt if an English reader would understand Dr. Mitchell's words, 'it [*i.e.* a certain theory] leaves no play between the explanations it suggests and the objects it has to explain'.

Other errors show an imperfect knowledge of French. 'Éventuel' is not 'eventual' but 'possible'—as the context usually suffices to show. 'Pour peu que' (*Év. Créa.*, 51) means 'if ever so little' not merely 'if' (50). 'Quoi qu'elle fasse' (*Év. Créa.*, 175) means 'do what it may,' not 'it does what it can' (170). A most startling blunder of this kind is the translation of 'je sens, je vis' (*Év. Créa.*, 230) by 'I feel, I *see*' (223), a carelessness which would scarcely escape punishment in a lower school form, but which also exhibits a deplorable indefiniteness as to Bergson's characteristic doctrine, as a reference to *Év. Créa.* (366), 'nous sentons et vivons les intervalles eux-mêmes' (where Dr. Mitchell's translation is correct) would show. To render 'trillions' (*Év. Créa.*, 325, 326) by 'trillions' (317, 318) instead of 'billions,' is at once to commit a vulgar

error and to show ignorance of one of the best-known results of the undulatory theory of light.

One more blunder which reduces to nonsense a perfectly simple passage may be noted on page 79. What is 'the theory of the specificity of embryonic *gills*'? The French has 'des feuillets embryonnaires,' which are of course what in English are called the 'germ-layers,' ectoderm, mesoderm, endoderm, which are in fact mentioned on the same page. Surely Dr. Mitchell might have asked his advisers for 'illumination' here!

J. Solomon.

The Pursuit of Reason. By C. F. Keary. Cambridge University Press, 1910.

Free Trade in philosophy by all means. Nevertheless, on reading Mr. Keary's brilliant but somewhat rhapsodical pages one is tempted to cry *Ne sutor . . . !* He would surely have done better to embody his thoughts on life and reality in one of those amorphous topical novels of the type so dear to Mr. H. G. Wells. Then he might have had his say, in the name of "the artistic reason," to which the forms of abstract and logical speculation are, on his own showing, abhorrent, about every subject under the sun from "mafficking" to "ping-pong," and in any one of the four or five languages in which he so impartially deals. As it is, though his gift for uttering pregnant and incisive philosophemes cannot be denied, his book as a whole seems to lack the solidity and compactness that we demand of a philosophic treatise. If one had to describe it in a word, one might not unfairly call it a jeremiad.

Mr. Keary is one of those who feels that the times are out of joint and that the country is going to the dogs. On the other hand, he says nothing that would lead one to suppose that all previous times have not been equally out of joint, or that this and every other country have ever been in less peril of the fate of Jezebel. Unreason is abroad, he cries; Opinion and its child Demonstration mask as Reason, daughter of the Arts. Quite so. It is a most unsatisfactory world. But to speak of leading "back" Astræa, of inducing the Immortals to walk "once more" on earth is rank metaphor. The golden age is in front of us, not behind us. One has not, then, much sympathy with all this crying over spilt milk. How does Mr. Keary propose to better things? That is what one mainly wants to hear from him. On the constructive side, however, he is all too brief and obscure. Realistic fiction that shall stimulate a concrete interest in persons—that would seem to be his Morrison's Pill. His new Bible is to be a glorified M.A.P.

On the critical side he luxuriates. Just as modern industrialism is all wrong, so is its counterpart, modern science. Both subordinate man to machinery. Anthropology, Psychology, and the other branches of the so-called science of man, with their parade of facts and statistics, succeed only in constructing a "phenomenomorphic" view of human nature. The humanism of *Literæ Humaniores* (not the pragmatism that has laid profane hands on this time-honoured name) feels and knows such explanations of humanity to be false. The true knowledge of man is not analytic, but synthetic, and as such communicable by art only. Well, there is doubtless a good deal of force in these contentions. It is, after all, little more or less than the Bergsonian point of view as held by one who is less of a trained philosopher and more of a literary man. It is a mistake, however, to suppose that the anthropologists and psychologists of the present day are not alive to the limitations of scope and procedure incidental to their

science. And Mr. Keary at any rate has no right to rate them, since, clearly, he has not read them, his allusions being mostly to works of the last century. The anthropology of to-day, for example, is quite content if it widen the range of human sympathy and sympathetic insight; and its methods are historical in the widest sense, and not statistical or biometrical in any narrow and pedantic way But it is hardly the anthropologist's business to answer Mr. Keary. His function may be that of tilting at windmills; but the function of the miller is to go on grinding corn.

Let us part friends. Mr. Keary loves truth and reality, and hates shams. All genuine philosophers will be with him there. And his artistic way is doubtless a good way, perhaps the best. The way of men of science is to work together. Such an ideal does not appeal to Mr. Keary, who is no democrat. His way is to work alone. Genius sufficeth unto itself. That is so. Unfortunately, the fool sufficeth unto himself also. Of the "artistic reason," therefore, we say: it depends on the artist.

R. R. Marett.

Attention and Interest. By Felix Arnold, Ph.D. The Macmillan Company, 1910. Pp. 272.

The author describes the purpose of this book as an attempt to clarify and arrange the many facts that have been brought to light by numerous experiments in the psychological laboratories. His aim is the ordered presentation of facts, not the defence of any special theory or school.

The scheme of the book—three main parts subdivided into chapters—seems simple and clear, but there is a noticeable jerkiness in the method of carrying it out. It is a little surprising to find Attention discussed before Interest. Part I. deals at the outset with "the given situation in Attention," and proceeds to study the subject from three main points of view—the objective, the psychophysical, and the physiological. Each section is illustrated by a reference to actual or suggested experiments.

Part II. discusses Interest first on the motor side, then on the ideal side. On its motor side "interest is essentially a striving, a conation, an appetition, a tendency towards something". It is "teleological, end-seeking". Three forms of it are distinguished—curiosity, expectation, and desire.

"The rise of Interest is dependent chiefly upon two factors: (1) pleasure-pain, etc., and (2) instinct." In connexion with instinctive behaviour pleasure-pain affords a basis for the development of Interest. "It is the use to which objects can be put, the service which they are able to yield, the pleasure or satisfaction to which they lead, which determines the interest in them." This purposive character shows the inadequacy of those views which consider interest simply as pleasure-pain.

Passing to the ideal aspect of interest, Mr. Arnold holds that in its simplest form it consists of a fringe of meaning or perhaps a dim awareness of the future moment which is to be realised. There need be no distinct image or thought of such a future state. "The development of the cognitive elements in interest is from impression to image, and from image to organised thought." The rise of interest is dependent not only upon the instincts and feelings of the individual, but also upon the copies and selection of the social group in which the individual moves. The models which are before an individual give form and direction to his instinctive behaviour. The difference between the interests of the slum

child and those of his more refined brother are due to a great extent to the difference in the environments which surround them.

Part III. is headed Education, and on the basis of the earlier sections discusses the problems of Attention and Interest in the class-room. The author makes some valuable practical suggestions regarding Facilitation, Pre-adjustment, and Ideal Reinforcement of Attention, and his remarks upon Fatigue, daily and seasonal Rhythm, and external influences are suggestive. He is right when he says that the use of positive means of developing interest does not preclude earnest effort or hard work. "Children will be found the last to shirk hard work which leads to a satisfying or pleasurable terminus." The problem of the teacher is to develop natural tendencies into definite interests, and interests are to be developed which can be of service in the direction of further effort.

JOHN EDGAR.

Studies in Logical Theory. By JOHN DEWEY, Professor of Philosophy, with the Co-operation of Members and Fellows of the Department of Philosophy. Decennial Publications of University of Chicago, vol. xi., 1903. Second Impression, May, 1909. Chicago University Press and Cambridge University Press. Pp. xiii, 388. 6s. net.

This volume is re-issued without change, and it is satisfactory evidence of the general interest in the advance of logical theory that a second impression should have been called for. It was fully reviewed by Mr. Schiller in MIND, xiii., p. 100,[1] and I will confine myself to welcoming it, and to making one brief observation. Prof. Dewey writes on page 15: "We have no choice save either to conceive of thinking as a response to a specific stimulus or else to regard it as something 'in itself,' having just in and of itself certain traits, elements, and laws. If we give up the last view, we must take the former." Thought, in a word, is an adaptation, and as such cannot have a nature of its own "in itself". I cannot help drawing this passage into contrast with Mr. Joseph's comment on Archdall Reid (MIND, 78, 178). Reid treats thought as an adaptation. Mr. Joseph, if I read him right, treats this as involving a mechanical character in thought, and therefore as false; because thought has a rational nature of its own.

Surely the opposition, presumed on both sides, between thought in itself and thought as an adaptation, is mistaken. To be "equal to the situation" is at once the inmost nature of thought, and its law as a principle of adaptation. It is not a mechanical adaptation; that is quite true. But, after all, conclusions follow from premisses, *i.e.* from a situation, though not in the same way as effects from causes. I cannot see how thought should exhibit its nature, if not by adjustment within situations; nor how it should prove equal to situations (the definition—I take it—both of truth and morality) unless it was "its nature to".

Of course it follows from this attitude that I admire Prof. Dewey's *Studies*, and am ready to learn much from them.

B. BOSANQUET.

[1] There can be no harm, I think, in my taking this occasion to acknowledge the relative defence—very relative, for of course Mr. Schiller does not agree with me in the main—of the intention of my Logic as against Miss Thompson's criticism, in the review referred to. I hope to return to this criticism in a second edition of the book.

Educational Psychology. By E. L. Thorndike. Second edition, revised and enlarged. Columbia University, New York City, 1910. Pp. v, 248. Price $1.50.

The first edition of this work was reviewed in Mind, N.S., xiv., 119. The second edition has grown, by the inclusion of new matter, from 177 to 248 pages, although the chapter on the "Influence of Special Training upon More General Abilities" is omitted.

The matter of the book has been rearranged. After a general introduction, and a chapter on the measurement of individual differences, come a series of five chapters upon 'influence': the influence of sex, of race, of family, of maturity, of environment. Then follow chapters on the nature and amount of individual differences in single traits, on the relations between the amounts of traits in the same individual, and on the nature and amount of individual differences in combinations of traits (types of intellect and character). A concluding chapter deals with extreme individual differences (exceptional children); and there are three appendices.

A few points of interest may be noted. Prof. Thorndike's attitude to Mendelian theory is non-committal; "as a result of the difficulty of finding any traits appearing in only two degrees each substantially invariable," he writes, "many students of heredity would frankly admit that the determiners did vary somewhat and that one determiner could blend with another similar determiner". He himself believes that individual variations in traits are usually, perhaps always, continuous (in the sense that mass, amperage, heat, human stature and anæmia are continuous), and that they usually cluster around one central tendency or type. "Within a group of the same sex, race and age, in original traits, the variations from the central tendency occur in approximately the relative frequencies described by the probability distribution." In the chapter on "Types of Intellect and Character," he argues strongly for the single-type and against the multiple-type theory. "Instead of a few 'pure' types or many 'mixed' types [of mental imagery], there is one type—mediocrity." "It is highly probable that, when actual measurements are made, mediocrity . . . will be found to be the one real type of [temperament]." In this chapter, the author overestimates the range of Betts' results (the nature of images 'voluntarily summoned' is not to be taken as a criterion of type at large) and underestimates the results of other investigators.

F. Peters.

Introduction to Philosophy. By William Jerusalem, Ph.D., Lecturer in Philosophy and Pedagogy at the University of Vienna. Authorised Translation from the 4th Edition. By Charles F. Sanders, A.M., Professor of Philosophy, Pennsylvania College. New York: Macmillan Co., 1910.

The value of Prof. Jerusalem's *Introduction to Philosophy* is sufficiently attested by the fact that since its original publication in 1899 it has gone through four editions. It is therefore well deserving of an English translation, but remembering the excellent German of his own translation of William James's *Pragmatism*, it is a pity that his American translator has not reciprocated the service. Thus, on pages 101-102, "Virwertung" is translated by "verification" instead of "use," a mistake which entirely obscures the argument, and on page 102, in a quotation from a German article of Dr. Schiller's, the phrase "Mittel und Vermittelung," "means and mediation," is rendered "means and

mediator," which deprives the assertion of all meaning. Even the name of the American philosopher Peirce is misspelt Pierce in the translation.

Prof. Jerusalem's own work stands in need of little commendation here. He is well known as one of the chief German discoverers of Pragmatism, as his two books *Die Urteilsfunktion* (1895) and *Der Kritishe Idealismus und die reine Logik* (1905) amply prove, and in the present work, which is admirably adapted for a pragmatic introduction to philosophy, his old position is re-stated with force and clearness. The book contains also valuable sections on the philosophy of Æsthetics and on Ethics, both subjects being treated from the scientific and biological standpoint characteristic of the author.

It only remains to hope that the English translation of the work will (when its errors have been corrected) prove as successful as the previous editions of it in its original language.

D. L. Murray.

On the Theory of the Infinite in Modern Thought. By E. F. Jourdain. Longmans, Green & Co., 1911. Pp. 55.

Two addresses by the Vice-Principal of St. Hugh's Hall, Oxford, one on "The Problem of the Finite and the Infinite," the other on "Pragmatism and a Theory of Knowledge". The intention is to deal in a general way with the philosophical problems suggested by the Theory of Assemblages. Presumably the audiences to which the addresses were delivered had already some knowledge of the Theory of Assemblages itself, since it is rather taken for granted than explained. Miss Jourdain's remarks are often suggestive, but the reader should be warned that her statements about the sense put on "infinite" in Greek Philosophy are, in general, the very reverse of the truth. It is also perhaps a piece of doubtful wisdom to employ the arithmetic of the Transfinite to the interpretation of the *Quicunque vult.* For the three *personæ* of the formula are surely meant to be infinite *unities*, while the whole doctrine of the Transfinite deals with infinite *aggregates.* And one might perhaps doubt whether the theology of page 46 does not amount to actual Tritheism. It involves at the least a very thoroughgoing Subordinationism to which the author probably did not mean to commit herself.

A. E. T.

Scritti di G. Vailati (1863-1909). Leipzig: Johann Ambrosius Barth; Firenze: Successori B. Seeber, 1911. Pp. xxix, 972.

Prof. Vailati, whose untimely death two years ago was a serious loss to Italian philosophy, is best known to the world at large as one of the band of eminent mathematicians and logicians of whom Prof. Peano, still happily with us, is the central figure. Vailati's interests were, however, far from being confined to pure logic and mathematics. More than most men he realised the ambition to take all knowledge for his province, as is abundantly illustrated by the handsome memorial volume before us, which forms a complete collection of the numerous reviews and short articles in which his views were given to the world. Over and above his contributions to Logic and Mathematics, he dealt with subjects drawn from such a variety of fields as Sociology, Pædagogy, Economics, Psychical Research, the history of Ancient and Modern Philosophy, and always with a remarkable acuteness and a singular wealth of information. To English and American readers some of the most interesting papers of

the collection are bound to be the series of reviews which expound his attitude towards Pragmatism, a movement with which he felt a great deal of sympathy. To write a critical notice of the ordinary kind on a volume made up of over 200 short papers on half a score of different sciences is obviously impossible. One can only thank the editors heartily for so worthy a memorial of the departed thinker. It should be said that the volume has the typographical excellence one is accustomed to expect in the best Italian work, and is introduced by a touching biographical sketch from the pen of Vailati's kinsman and intimate friend, Father Orazio Premoli.

A. E. T.

A Guide to Reading in Social Ethics and Allied Subjects; Lists of Books and Articles Selected and Described for the Use of General Readers. By Teachers in Harvard University. Published by Harvard University, Cambridge, Mass., 1910. Pp. x, 265.

The title of this little book is a sufficient indication of its contents. Selected bibliographies are given under the headings: Social Philosophy, Social Institutions, Social Service, The Ethics of Modern Industry, Social Aspects of Religion, and Bibliographical References in Social Ethics. Nearly all are well done; perhaps we may single out, for special mention, Prof. Palmer's treatment of Ethical Theory and Dr. McConnell's of Crime and Criminals. Social Psychology has fared somewhat poorly.

J. Field.

The Essence of Religion. By Borden Parker Bowne. Boston and New York: Houghton, Mifflin Co., 1910. Pp. viii, 299. Price $1.50.

This is a collection of twelve sermons and other addresses which the late Prof. Bowne revised and prepared for publication shortly before his death. They deal with such topics as Righteousness the Essence of Religion, Salvation and Belief, The Christian Doctrine of the World, Prayer, The Law and Successful Living. The style is clear and forcible; the matter will be familiar to those who have read the author's earlier works, *The Immanence of God* and *Studies in Christianity.*

J. Field.

Truth on Trial: An Exposition of the Nature of Truth, preceded by a Critique of Pragmatism and an Appreciation of its Leader. By Paul Carus. Chicago: Open Court Publishing Co., 1911. Pp. vi, 138. Price $1.00.

Dr. Carus has here brought together in book form, and supplied with a full index, the various papers on the nature of truth (Pragmatism, The Philosophy of Personal Equation, The Rock of Ages, The Nature of Truth) which he has published during the past three years in *The Monist;* an Appendix reprints certain criticisms of pragmatism from the same source. The writer's philosophical standpoint has been indicated in Mind, xix., 434 f.

J. Waterlow.

Substanzbegriff und Funktionsbegriff. Untersuchungen über die Grundfragen der Erkenntniskritik. Von Ernst Cassirer. Berlin, 1910. Pp. xv, 459.

No work of Dr. Cassirer can be said to stand in need of any commendatory introduction for the readers of Mind, to whom he has long been

known as one of the most thoughtful and thorough writers of what may be generally called the Neo-Kantian School. There are features of the present volume in particular which should make it indispensable to the serious student of the problems connected with the methods and concepts of science. One is, that, as might have been expected from his past achievements, the author shows himself fully abreast of those developments in the philosophy of Mathematics which are perhaps the most remarkable contribution of our own age to the advance of scientific thought. The significance of the modern reduction of pure Mathematics to the theory of assemblages and types of order, itself a construction involving, to use the phraseology of Mr. Russell, "none but logical" constants and functions, receives full recognition, and it is perhaps the most striking feature of the work that the ideas suggested by these achievements in the domain of pure thought are made to serve as the basis for a further searching examination of the presuppositions and methods of exact natural science. Incidentally there is some excellent criticism of leading peculiarities of Mr. Russell's realism, his assumed hard and fast distinction between "existence" and the realm of objects of pure science, and again between the "terms" involved in science and the relations between them, and his doctrine of the purely passive character of knowledge. The results arrived at are, as might have been expected, in their general character those which are natural in an idealistic interpretation of science. The alleged hard and fast severance between terms which are, in the last resort, passively given to a simple apprehension, and relations taken to be "extrinsic" and ungrounded, vanishes before an analysis which shows that the datum accepted as "given" is "given" only in relation to a postulated system of orderly connexions. When we aim rightly at exhibiting the results of science as the establishment of functions of "invariants," it is always only in relation to our initial system of postulates that the "arguments" of our functions can be said to be "invariant," and the history of the gradual perfection of scientific hypotheses is precisely the history of the discovery that the "invariants" with which we have started are not absolute but demand further determination by reference to still more ultimate invariants. The absolutely invariant is a postulate of scientific thought which always remains a transcendent "beyond" at every stage of our actual achievement. Equally pertinent is the criticism of the "descriptive" theory of the scientific problem as conceived by empiricism. Science, we are often told, aims at being simply a full description of given facts. In its actual developments the description is, indeed, only affected by the aid of mathematical "hypotheses," but these "hypotheses" are no more than fictions by which we aid our imagination, and the ultimate goal of science, so at least we hear from the numerous representatives of the "descriptive" view who tacitly assume the metaphysical doctrines of sensualistic empiricism, would be the elimination of hypothesis and the reduction of the whole content of knowledge to acquaintance with data passively given in sense-perception. Here again Dr. Cassirer's criticisms turn upon the triumphant demonstration that the alleged distinction between the fact and the hypothetical construction is illusory; the supposed "fact" can only be described in terms which already imply a connected system of logical postulates. The systematic interconnexion of all "facts" and even their connexion in accord with some definitely conceived system of postulates, is presupposed by the simplest statement about any "isolated" fact; a modification in our conception of the structural system of the postulates of knowledge carries with it corresponding modifications in our conception of the facts to be connected. These results are not, of course, in themselves new, but they are illustrated by a wealth of material from the

sciences handled in a masterly manner, and reaffirmed against the "new realism" in a way which must give the liveliest satisfaction to any who might be inclined to fear that the modern advances of pure science have in any way invalidated the general position of a "critical" idealism.

It is a striking sign of the times that, as the very title of the book shows, the underlying thought of the whole argument involves a return to conceptions laid down for the theory of knowledge by Plato, and already perverted in the Aristotelian logic. As we all know, the characteristic achievement of Kant was to substitute for the traditional view of concepts as revealing to us a "substance" behind "phenomena," the thought of their "functional" value for the ordering of the phenomenal. Now, as Dr. Cassirer admirably explains, the whole point of view against which Kant's polemic is directed, springs directly from the Aristotelian theory of the formation of concepts by "abstraction". The concept, in this view, gives us simply the residue of common characteristics found in each of a group of objects when we have stripped off all that is peculiar only to some of them. Now what Plato had already seen with perfect clearness, and what the history of mathematical physics and chemistry has absolutely demonstrated, is that the concepts of genuine science are all of a kind which cannot be reached by the repeated performance of the process of abstraction. The concepts which, in mathematical physics, make the course of nature intelligible to us, are expressed in its equations and functions. And what these express is regularly the type of order or law of formation of some numerical series, *i.e.* something which can never be detected as a "common feature" detachable by abstraction from the individual terms of the series when they are compared with one another. Thus the character of an infinite series is indicated by the limit to which it converges, but no inspection of an individual term of the series will ever reveal the limit as one of a group of "marks" detachable by abstraction. It is the distinguishing feature of the Platonic εἴδη, themselves a product of reflexion on the logical nature of mathematical science, that they exhibit just this character of being limits which, to use Plato's own terminology, are not discovered by abstraction, but constructively "posited". The English reader will be reminded of the way in which Prof. Stewart has recently called attention to the "methodological" side of the Platonic doctrine. Thus, I may remark, we get the curious result that it is precisely because the Platonic εἶδος is, as Aristotle is always complaining, "outside" the particulars of sense, that it can act as an ideal "norm" or "standard". *Because* it is χωρὶς τῶν αἰσθητῶν, it can function as a law or type of order for the interpretation of possible "data of sense". Another matter in respect to which the author rightly calls attention to the mischief done by Aristotelian perversion of Plato is the psychology of the categories. As he observes, it was a fatal blunder in analysis when Aristotle substituted for the doctrine of the *Theætetus* that the fundamental types of order are apprehended by "the soul herself apart from the mediation of the organs of sense," the inherently misleading theory of the κοινὰ αἰσθητά. The psychological mistake involved is, of course, an exact counterpart of the logical error of regarding the concept as a residuum left over after abstraction. The categories once classed as κοινὰ αἰσθητά, cease to be recognised as types of relation, constructions of the understanding and are mistaken for marks or characters which can be detected by sense perception *in* the isolated datum. It is precisely the same fallacy which, as Dr. Cassirer well observes, infects both the "empiristic" and "nativistic" theories of the apprehension of space in our modern psychology. As he puts it, with special reference to Stumpf's presentation of the "nativistic" argument, "that every relation is the relation of something, and so far presupposes *fundamenta* upon which it is

built may be true enough, though it must not be forgotten that the dependence is completely reciprocal, so that the *fundamenta* need the relation no less than it needs the *fundamenta*. But it is not implied that that which constitutes the peculiar character of a special principle of order must be in its turn capable of being exhibited as a 'mark' in the content (*inhaltliches Merkemal*) of the elements ordered. Were we to make this assumption, we should in the end have to ascribe to the 'content' as many special 'qualities' as there are ways of connecting it with and relating it to other contents. We should have to postulate a specific *Wahrnehmungsbestand* not merely for spatial order, but for temporal order, and further for every kind of quantitative or qualitative comparison" (pp. 456-457).

A. E. Taylor.

La Filosofia di Giambatista Vico. Da Benedetto Croce. (*Saggi Filosofici* II.) Bari, 1911. Pp. ix, 316.

Vico is the most original thinker that Southern Italy—a land fertile in thinkers of genius—has produced since Parmenides; and if he does not rank as the founder of Comparative Sociology, it is because he went so far in advance of his age as to be forgotten when the work to which he had vainly devoted his life was resumed and successfully carried on. This, one might suppose, was glory enough. But it does not satisfy his countrymen. They must needs proclaim the author of the *Scienza Nuova* to have been no less a metaphysician than a sociologist, and dilate on the profundity of works which Vico himself wished to consign to oblivion. Because half a dozen of his brilliant *aperçus* have been rediscovered and worked out by nineteenth century science, therefore his philosophy contained the whole nineteenth century in germ. Because some verbal resemblances may be made out between his speculations and German transcendentalism, therefore he anticipated the whole development from Kant to Hegel.

Signor Benedetto Croce does not go to quite the same lengths of extravagance as another Italian critic whose work I noticed in a former number of Mind (April, 1911, p. 289); and his account of Vico's philosophy is on the whole no less remarkable for the soundness of its judgments than for the brilliancy of its exposition: it is only in the general summary with which the book concludes that such preposterous claims as those referred to are put forward on behalf of his hero.

If the forecasts of nineteenth-century thought in the *Scienza Nuova* have been greatly exaggerated, so also Signor Croce has considerably overestimated the extent of its author's reaction against his own century. This has been shown by anticipation in a very able article on Vico in the *Encyclopædia Britannica*, understood to be from the pen of a very distinguished living Italian historian. No mention is made of that article in the bibliography appended to this work; yet, though short, it remains an important contribution to the literature of the subject, and by connecting Vico's speculations with the flourishing contemporary school of Neapolitan jurisprudence it supplies a valuable corrective to Croce's one-sided view. But besides this more direct action the general influence of eighteenth-century philosophy makes itself felt in more ways than one. The idea of the different nations as so many disconnected individualities, each working out its own civilisation on independent yet parallel lines, betrays the radically anti-social genius of the whole age and vividly recalls the windowless monads of Leibniz—the very thinker whom Croce puts up as Vico's complete antithesis. It was doing a good service to show, as Vico did, that the Decemviral legislation was not borrowed

from Solon; but his insulating method did not allow him to recognise the inestimable debt of later Roman law to Greek philosophy. The same monadism is perhaps responsible for his theory of recurring cycles —a theory too lightly passed over in this volume. For precisely what saves the nations from the fate predicted for them by the *Scienza Nuova* of an ever-repeated relapse into barbarism is their healthy interaction, the torch being not simply handed on to successive racers, but backwards and forwards from one racer to another. To save us from the stagnation of Moab, sitting for ever on his own lees, we need not, like Judah, be carried into captivity: it is now enough that the spirit of the wine itself should be 'poured from vessel to vessel'. In this respect the last century, to its great profit, completely reversed Vico's method.

Another error due to the Zeitgeist was Vico's gross exaggeration of the barbaric element in Homer. It was right to show that the Homeric poems were not sermons in hexameters but representations of elemental human passion. At the same time it was sickly sentimentalism to criticise them as if they were nothing else, to ignore the high rationality with which they are pregnant all through. Had Vico studied Shakespeare, as Croce wishes he had, he would probably have agreed with Voltaire in comparing him to a drunken savage. And his ascription of the *Iliad* and *Odyssey* to the combined inspiration of a whole age rather than to the genius and art of one or more great poets, if it anticipated Wolf—another child of the eighteenth century—certainly did not anticipate the more matured judgment of the nineteenth century, still less that of the twentieth. It may be admitted that Vico was a genuine Romanticist; but we know from Shaftesbury's *Characteristics* that Romanticism was rife in the reign of Queen Anne. For the last fifty years it has been no more than a literary survival.

It seems to me that the best part of this book is the account of Vico's personality with which it concludes. Carlyle has found no place in his gallery for the hero as a philosopher. The character here depicted might go far to supply that void. Like Milton's his 'soul was like a star and dwelt apart'—like Milton's also and still more his heart 'the lowliest duties on herself did lay': quite literally, too, for the complete illiteracy and incompetency of his wife obliged the greatest genius in Italy to do the housekeeping for himself, and that too in the narrowest domestic circumstances. His flatteries of the great seem to us profuse and insincere; but they were demanded by the manners of the age, and without such a tribute he might have been left to starve. As it was, beyond a scanty livelihood his literary labours brought him no more than the reputation for learning indiscriminately enjoyed by the ruck of classical scholars; his originality, where it was recognised at all, being looked on as a species of insanity. It does not appear, however, that he was ever credited, as Buckle has been, with holding opinions the direct opposite of what he actually taught; for the suspicions occasionally thrown upon his orthodoxy, although personally unmerited, indicate, as Croce points out, a just perception of the consequences to which his philosophy ultimately leads.

A. W. Benn.

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VIII.—PHILOSOPHICAL PERIODICALS.

Philosophical Review. Vol. xx., No. 1. **R. B. Perry.** 'The Philosophy of William James.' [James's Philosophy was a study of man, or of life; he was thus interested in the nature of the human mind, and in man's great enterprises, knowledge and religion. (1) Mind is pictured as follows: The organism operates, interestedly and selectively, within its natural environment; and the manifold of elements thus selected composes the mind's content. Viewed by itself, this content exhibits characteristic patterns or groupings; the most striking is the knowledge process. But as the body is the original instrument of selection and the source of individual bias, so bodily states and orientation will be the nucleus of every individual field of content. (2) The problem of theory of knowledge, to be solved empirically, is: How can idea and object be two, and yet the one be knowledge of the other, and both fall within the same individual conscious field? All knowledge, for James, is virtually direct or presentative. All truth, applied and theoretical, is defined in terms of satisfaction, but of a determined satisfaction, whose conditions are imposed on the one hand by environment, and on the other by the interest which called forth the idea. James is a radical empiricist by his discovery that the relations between things are found along with the things themselves; a realist, by his acceptance, as theorist of knowledge, of the non-mental world-order of common-sense and science. (3) There are genuine options for belief; and the evidence of mystical experiences creates a distinct probability in favour of theism. Indeterminism may be looked for, in a pluralistic universe; pluralism itself follows directly from James's theory of knowledge. The supremacy of the good is not guaranteed, but is only made possible, and thrown into the future as a goal of endeavour.] **R. M. MacIver.** 'Society and State.' [Hellenism cannot furnish the key to the modern State, since within the small circle of the Greek city the distinction of State and society lay concealed. Rousseau declares that the general will cannot err; he thus fails to distinguish between the social and the political order. Hegel distinguishes only the economic system from the State organisation, while at the same time he includes in this system certain essentially State institutions. Bosanquet confuses State and society both in his account of the State and in his doctrine of real and actual will. In fact, the State is determinate, a closed organisation of social life; society is indeterminate, an ever-evolving system that extends beyond the State and is but partially controlled by it. Citizenship is not adequate to social interest; and the paths of social interest do not stop at the frontiers of States.] **G. N. Dolson.** 'The Philosophy of Henri Bergson.—II.' [After pointing out that Bergson and the pragmatists are alike in their opposition to rationalism, but that they have an entirely different conception of the nature of philosophy, the writer discusses Bergson's system under three heads. (1) *Intelligence and Instinct.* Here there are difficulties in the treatment both of memory and of instinct. If knowledge

is the identification of subject and object, the choice of instinct as the knowing faculty is in some sense justified; but the outcome must be fatal to philosophy. (2) *Time and Space.* The main problem here is the relative value of permanence and of change; the appeal is to intuition, that is, again, to faith. (3) *Matter and Perception.* Here the ontological and cognitive status of matter is obscure. In general, the difficulties of Bergson's epistemology are inherent, while those of his metaphysics are less radical, and appear rather as ambiguities than as contradictions. Historically, Bergson stands nearest to Heraclitus; and, after Heraclitus, to Schopenhauer and von Hartmann.] Discussions. **J. E. Boodin.** 'The Nature of Truth: A Reply.' [The ontological absolute cannot be accepted as a postulate; proof must be forthcoming.] **R. A. Tsanoff.** 'Rejoinder.' [There must be an organic unity of epistemology and ontology.] Reviews of Books. Notices of New Books. Summaries of Articles. Notes.

Psychological Review. Vol. xvii., No. 5. **E. M. Weyer.** 'A Unit-concept of Consciousness.' [All the natural sciences have their unit-concepts: cell, molecule, atom, point, etc. Psychology, and especially comparative psychology, stands in pressing need of such a concept. We may find it, tentatively, in the following: (1) a small amount of complexity, differentiated in clearness as distinguished from sensory intensity (*i.e.*, a field of attention); (2) a mass of sensations, as yet undifferentiated but soon to differentiate, the earliest line of cleavage being that which sets aside 'muscular' sensations; and (3) four varieties of feeling, strain, and relaxation (accompanying massive and reduced sensory contents), and excitement and depression (accompanying marked change in sensory contents and the return of consciousness to a static condition). This autonomous unit of consciousness, by virtue of the shifting of its states of feeling in accordance with its own peculiar laws, introduces greater variety into the series of possible responses to stimuli than would arise through mechanical causes acting alone.] **K. Dunlap** and **G. R. Wells.** 'Some Experiments with Reactions to Visual and Auditory Stimuli.' [Preliminary report, giving figures but no inferences, upon reaction experiments (sensory attention) of four kinds: reactions to simultaneous light and sound stimuli, with attention directed exclusively to the one stimulus, as compared with reactions to light or sound stimuli alone; discrimination of light from sound, with reaction to the one and not to the other stimulus; discrimination of the combination of the two from either separately, with reaction to the combination and not to the single stimulus; and discrimination of light or sound alone from the combination of the two, with reaction to the single stimulus and not to the combination. It was found, in special experiments, that the chronoscope may be levelled by eye, without fear that a slight tip will affect the times.] **H. H. Bawden.** 'The Comic as Illustrating the Summation-irradiation Theory of Pleasure-pain.' [Agreeable emotion is connected with such massing of stimuli as leads to a response within the normal limits of the functional capacity of the organism, while pain accompanies the piling-up of stimuli and the subsequent discharge when these exceed the limits of such normal functioning. This theory is illustrated and confirmed by Zeising's description of the comic as 'tension, discharge, and recovery of poise'. Tension or summation is shown physically in expectancy, mentally by incongruity of the ideational content, the psychological side of the conflict of habit-systems; there must, however, be a background of congruity. The factor of surprise is the emotional counterpart of the fact of irradiation; the discharge, while necessary, need not be abrupt. The sense of relief comes from the fact that the

apparent break or disadaptation turns out to be really an adaptation; this recovery of poise is the counterpart of what is elsewhere termed æsthetic repose. Laughter is the most primitive form of æsthetic experience; the comic antedates the tragic, which is grafted upon it by a curious process of inversion.]

American Journal of Psychology. Vol. xxii., No. 1. **F. L. Wells.** 'Practice Effects in Free Association.' [Practice has four usual effects: it reduces the time of association towards a limit of approximately 1·2 sec. (median of fifty associations); it differentiates and particularises the responses, by increasing the readiness of the reactor's total vocabulary; it renders the form of association more and more superficial; and it lessens the emotive value of the experiment, and therefore its applicability to purposes which imply this value.] **H. Kakise.** 'A Preliminary Experimental Study of the Conscious Concomitants of Understanding.' [An introspective study of the understanding of words and phrases, given to vision or audition, with and without limitation to the first moment of comprehension. The experience of meaning, in all its varieties, is found to be some serial phase of a process of reproduction, some stage of the revival of related past experiences. The 'feeling of familiarity' appears as an irreducible retrospective 'quality' of a present impression, "a coloration or configuration given to the present impression by the rudimentary revival of its past experience". The author also recognises a 'feeling of content,' as an awareness of the more or less fused aggregate of incipient associations, a bare feeling of richness or poorness without explicit imagery (Ach's subexcitation of a field of reproductive tendencies). There is no pure conscious meaning or knowing aside from these two feelings. Many details are furnished with regard to imagery; whether or not a concrete representation has any part in the understanding-consciousness depends primarily upon the time which one devotes to the word or phrase in question. For study of the general laws and individual peculiarities of association, the writer prefers Bühler's method to that of the association-reaction.] **I. H. Coriat.** 'The Psychopathology of Apraxia.' [Review of literature; attempt at psychophysiological explanation; report of two cases. Normal voluntary activity depends on two mechanisms: the sensory representation of the successive phases of the total complex act (kinetic formula), and the translation of this representation into external movement (exteriorisation). In motor apraxia, the kinetic formula is defective; it is a motor dissociation, in which special kinæsthetic memories lie outside the field of general motor innervation. This isolation of part-contents of the kinetic formula depends ordinarily on a break in conduction of callosal fibres.] **F. Angell.** 'Note on Some of the Physical Factors Affecting Reaction Time, together with a Description of a New Reaction Key.' [With increase of the tension of the spring in the ordinary telegraph key, reaction time is shortened; this result is probably physical, due to an acceleration of finger-movement imparted by recoil of the spring. Experiments with a trigger-key show that increased tension of pull means increased reaction time, with a tendency towards smaller mean variation and decrease of distance pulled.] **F. H. Safford.** 'Precision of Measurements Applied to Psychometric Functions.' [Critique of Urban.] **H. L. Hollingworth.** 'The Psychology of Drowsiness: an Introspective and Analytical Study.' [The drowsiness hallucination is a perceptual fusion or complication, characterised by transformation of type of imagery; by sensory, perseverative and ideal substitution; by fluidity of association, chiefly on a sensory basis; and by isolation of associative trains. It is accompanied by tendencies to grandeur and vastness, and by rapidly developed amnesia; there is no evidence of sym-

bolism.] Minor Studies from the Psychological Laboratory of Vassar College. **E. L. Norris, A. G. Twiss, M. F. Washburn.**—'xiv. An Effect of Fatigue on Judgments of the Affective Value of Colours.' [The effect of fatigue, in lowering affective value, is beyond question. It is far less marked in the case of saturated colours than in those of shades and tints.] **M. F. Washburn.**—'xv. A Note on the Affective Values of Colours.' [Affective value, in order highest to lowest, attaches to tints, shades, saturated colours; affective reaction, whether by pleasantness or by unpleasantness, is most positive for saturated colours, and more positive for tints than for shades.] **W. T. Shepherd.** 'The Discrimination of Articulate Sounds by Raccoons.' [Four animals learned to distinguish their names, called in varying tones of voice from other words; the words were called in irregular order. There were marked individual differences: 270 and 500 trials for the best and worst learners.] Book Reviews.

JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS. viii., 3. **G. Santayana.** 'Russell's Philosophical Essays.—I.' [Appreciative, but objects to the worship of mathematics.] **E. G. Spaulding.** 'Realism: a reply to Prof. Dewey and an Exposition.' [*Cf.* vii., 20. Very long, but seems incapable of seeing the gravamen of Dewey's first charge, *viz.*, that an attempt has been made to decide a question of fact by a mere definition of the meaning of 'genuine knowledge'. **J. Dewey's** *Rejoinder* consequently merely points this out.]—viii., 4. **H. C. Brown.** 'The Logic of Mr. Russell.' ["Strengthens the suspicion that the new logic is nothing but the old logic dressed up in new clothes," "borrowed from a highly technical science," and so in "an unnecessarily inaccessible form".] **K. Schmidt.** 'Tenth Meeting of the American Philosophical Association.' [The discussions seem largely to have centred round neo-realism and Dewey's criticism of it.—v. above.]—viii., 5. **G. Santayana.** 'Russell's Philosophical Essays.—II.' [On Russell on Pragmatism and on Pragmatism at length, on Russell's own theory briefly and without recognition of the importance of the problem of error; most interesting in the author's attempt to make his own very elusive position clear.] **R. S. Woodworth.** 'New York Branch of the American Psychological Association.'—viii., 6. **J. H. Robinson.** 'The Relation of History to the Newer Sciences of Man.' [Though the scientific way of writing history has supplanted the literary, history is not yet sufficiently historical in that it does not rely enough on the genetic method which the natural sciences now employ. Archæology, anthropology, social and animal psychology all yield results the historian must know to perform his scientific function.] **B. A. W. Russell.** 'The Basis of Realism.' [Expresses his 'almost complete agreement' with the 'Six Realists' of vii., 15, and expounds, briefly but clearly, the notion of external relations and its connexion with realism and pluralism. It leads to the result that "many questions which have been supposed amenable to *a priori* treatment must be dealt with empirically, since logic leaves the alternatives undecided". Contains also the doctrine that a general proposition may be known though no instance of it is known, which is exemplified by "all the multiplication-sums that never have been and never will be thought of by any human being deal with numbers over 1000". But seeing that there can hardly be a 'multiplication-sum' until there are numbers, and that in this example the definite numbers necessary to constitute the problem and to exemplify a case of an 'unthought-of multiplication-sum,' are explicitly supposed to be lacking, it would seem that Mr. Russell had illustrated only the mind's power of framing unmeaning propositions.]—viii., 7. **W. T. Bush.** 'The Emancipation of Intelligence.' [Traces the ideas of God, the soul and

the universe to 'animistic reminiscence,' and regards idealism as mere dialectical juggling with these obsolete notions.] **E. A. Singer.** 'Mind as an Observable Object.' [Has discovered James's lapse in repudiating 'an automatic sweetheart which should be absolutely indistinguishable from a spiritually animated maiden,' but does not suggest the proper correction, *viz.*, that if the cases were *absolutely* indistinguishable, it would not matter pragmatically whether the lady were *called* 'automatic' or not, because the meaning would be the same.]—viii., 8. **G. A. Tawney.** 'Consciousness in Psychology and Philosophy.' ["It is all very well to write psychology for the sake of psychology . . . but we need a psychology of human conduct to supplant the psychology of consciousness."] **M. E. Haggerty.** 'The Nineteenth Annual Meeting of the American Psychological Association.' [Says the use and meaning of consciousness was the chief problem.]—viii., 9. **I. W. Riley.** 'Continental Critics of Pragmatism.' [Chiefly about the French popularisers, Bourdeau, Hébert, Chaumeix.] **B. C. Ewer.** 'The Eleventh Annual Meeting of the Western Philosophical Association.' **P. Hughes.** 'Note on Methods of Refutation in Philosophy.' [Accuses B. Russell's example of an unknowable reality in viii., 8, of converse fallacy of accident and contradiction in terms.]

Archives de Psychologie. Tome x., No. 1. **J. L. des Bancels.** 'L'odorat; Revue générale et critique.' [A useful review, under the titles: odours and odorous substances, the olfactory apparatus, the external mechanism of olfaction, olfactometry, the laws of olfactory sensation, reaction-times and olfactory reflexes.] **P. Dubois.** 'Conception psychologique de l'origine des psychopathies.' [Brief review of the theories, physical and psychological, of the origin of mental disorders, from the earliest times to the present day; detailed exposition of the views of Heinroth (Leipzig, 1818). Mental disorder is due to the incidence of both physical and moral stresses; but the influences in question are often trivial, and are common to the majority of lives, normal as well as abnormal. The essential factor in mental disorder is the 'primitive mentality' of the subject: a certain inherited mode of reaction, thought and feeling, and a certain temporary disposition, a 'fragility,' induced by fatigue, night, menstruation, puberty, senility, illness, intoxication, etc. Native weakness of mentality, psychasthenia, is thus the cause of psychopathic conditions; and they must be treated by psychotherapeutic procedures, by intellectual and moral education.] **F. Ruch.** 'Mélancolie et psychothérapie.' [Report of a typical case of melancholia (attack, cure, relapse, and final cure), which was successfully treated on the psychological principles set forth in the preceding article.] **P. Bovet.** 'L'originalité et la banalité dans les expériences collectives d'association; Note sur la façon de les mesurer.' [Collective experiments on verbal association have proved the existence of 'preferred' or frequently recurring associations. It is easy to calculate from the results the coefficients of commonplaceness or originality of the individual reactors; to determine the relative homogeneity of the group; and to arrange the stimulus-words in the order of their power to evoke commonplace (or original) associations. It appears that commonplaceness, as thus measured, is a mental constant.] **O. Polimanti.** 'Les céphalopodes ont-ils une mémoire?' [Repetition and variation of von Uexküll's experiments with *Eledone moschata*. There is no evidence of memory.] Recueil des faits; documents et discussions. **A. van Gennep.** 'Un cas de possession.' [Description of a case of possession (girl of 18) from a document apparently of the beginning of the last century.] **A. Lemaitre.** 'A propos des chiffres scolaires de conduite.' [A good mark at school may

coexist with private malconduct; and the restlessness due to self-mastery at adolescence may lead to a bad school mark. Hence school rating is not a wholly reliable criterion of conduct.] **C. Werner.** 'Ve Réunion des philosophes de la Suisse romande, Rolle, 16 juin 1910.' **E. Claparède.** 'William James, 1842-1910.' [An interesting sketch, with two portraits.] Bibliographie. Notes diverses.

Zeitschrift f. Psychologie. Bd. lvi., Heft 5. **G. Ries.** 'Beiträge zur Methodik der Intelligenzprüfung.' [(1) Words actually connected as cause and effect were read in pairs to children of 11 to 14 years, with the instruction that they were to connect them in thought as they heard them; the first members were then read alone, and the children wrote down the second. The coefficient of correlation with the teachers' estimates ranged from 0·59 to 0·90. (2) A class whose coefficient of correlation by this method was 0·85 gave only 0·40 in a test of pure memory (nonsense syllables); the method evidently involves more than memory. (3) This additional factor, the capacity of apprehending the connexion between the import of two words, was tested by another method: a word was called out, and the children responded by writing down a word which stood to it in the relation of effect to cause. The coefficients of correlation now ranged from 0·85 to 0·94. (4) Tests of two classes by Ebbinghaus' method of completion gave coefficients less than those of the second, and no greater than those of the first, of the new methods.] **A. Voigt.** 'Über die Beurteilung von Temperaturen unter dem Einfluss der Adaptation.' [The hands were adapted to differences of 5 or 10°, at temperatures of 10, 20, 30, and 40° C., for times of 2 to 70 min. (usually, it seems, for 10 to 15 min.). The degree of adaptation attained was strikingly small, never exceeding one-fourth of complete or ideal adaptation.] **A. Balaban.** 'Über den Unterschied des logischen und des mechanischen Gedächtnisses.' [Lists of forty two-syllable words were presented to sight or hearing; in some experiments they were to be taken mechanically, in others to be connected in pairs by some conscious relation. This latter, the logical procedure, resulted in quicker learning and better retention; the times of reproduction, however, were on the average longer. Examination of the reports proved that the logical procedure is, in fact, manifold; the connexion may be external or internal; if internal, concrete (imaginal) or abstract; if abstract, a complex concept, a sentence, or a train of thoughts. The length of the times may be explained on the hypothesis that logical learning means, in essentials, the utilisation of already existent associations, or the realisation of determined reproductions, or both of these things together, and that the formation of stronger associations by way of conscious unification plays only a subordinate part.] Literaturbericht. **M. Ettlinger.** 'Sammelbericht über Tierpsychologie, ii.' Der IV. Internationale Kongress für Philosophie.—Bd. lvi., Heft 6. **L. J. Martin.** 'Zur Lehre von den Bewegungsvorstellungen.' [In explaining certain motor paralyses, Müller and Schumann assumed, among other things, that movements are aroused by ideas of movement, and normally by kinæsthetic ideas of movement; that a visual idea of movement may evoke a movement in its own right; that one idea may do vicarious duty for another, in the release of movements; that the patient's ideas of movement are stronger if he looks at the member which is to be moved; that his visual ideas of movement are stronger and also more effective, if he keeps his eyes open and watches the moving member, than if he closes his eyes; and that his remaining kinæsthetic ideas, such as they are, are either unaffected by opening and closing of the eyes or are affected in the same way as the visual ideas of movement. All these propositions may be tested on normal observers. Experiments, with the

necessary modifications, were therefore made by three methods : by the method of ideation or of imagination, in which the observer thinks of the movement, without performing it, and then reports upon the nature of the ideas of movement which the imagination involved ; by the method of precedent ideas, in which the observer performs the prescribed movement, and then reports upon the ideas of movement which directly preceded performance ; and by the method of recollection, in which the observer performs the movement, calls it back by act of memory, and then reports upon the nature of the ideas of movement. The results confirm the first four of the Müller-Schumann assumptions ; but the last two are shown not to be of general validity ; so that the theory will stand (apart from the necessary confirmation of assumptions not here touched upon) only if the paralyses in question are confined to patients of a certain type of mental constitution. So much for the main purpose of the paper : the experiments, which are numerous and widely varied, have an importance of their own, as throwing light upon the conscious antecedents of voluntary actions, the reduction of these antecedents with repetition, the criteria of kinæsthetic imagery, the functional dependencies of the ideas of movement, the effects of attention, and so forth.] Literaturbericht. **M. Ettlinger.** 'Sammelbericht über Tierpsychologie, iii.' Umfrage um die Psychologie des motorischen Menschen. Internationaler Kongress für Pädologie.

Archiv f. d. gesamte Psychologie. Bd. xvii., Heft 1 und 2. **V. Benussi.** 'Über die Grundlagen des Gewichtseindruckes : Beiträge zur Psychologie des Vergleichens.' [A paper of 185 pp., 15 of which the author requires for his summary : only a bare indication of method and results can here be given. (1) When a weight is lifted, mechanical work is done and a mechanical effect attained ; if the height of lift varies, while rate remains unchanged, the amount of work also varies, while the effect is constant ; and, conversely, if the rate of lift varies, while height is unchanged, the effect will vary, while amount of work remains the same. By a procedure which allows of the separate control of these factors, with weights of different magnitude, the writer seeks to determine the dependence of the subjective impression of weight upon work and effect respectively : concretely, he seeks to determine the amount and uniformity of agreement between the observer's judgments of difference and the mechanical effect ; the method is therefore named the method of agreement (*Übereinstimungsmethode*). A first series of experiments is carried out with no suggestion as to manner of lifting ; in a second, the observers are instructed to make the one lift large and the other small ; in a third, to make the one quick and the other slow. (2) In the experiments without instruction, the subjective impression depends, so long as the weights are absolutely light, upon the mechanical effect. The processes that lead to illusion of weight are therefore essentially physiological in character ; though a psychical factor appears in the distribution of attention to the phases of the process of comparison. If the weights are heavy, this relation between impression and effect is at first obscured by a predisposition of the observers ; as time goes on, the relation appears again. (3) In the experiments with instruction as to height of lift, the weight that is lifted higher is judged the heavier, but only because it is unconsciously raised more quickly ; the correlation of impression with effect is complete. The instruction to lift quickly leads to a disproportionately strong motor impulse, which must affect the correlation especially when absolutely heavy weights are in question and when the order of lifting in the individual case is quick-slow. (4) The time error cannot be satisfactorily explained either physiologically (motor

excitation, facilitation, fatigue) or in terms of memory. Where the mechanical effect is greater, there the impression of weight is also greater; so that, according as the greater effect is attained by the first or the second lift, the time-error must be positive or negative. (5) Subsidiary experiments deal with the physiological expression of attention (pulse and breathing), and with the part played by insistence (*Auffälligkeit*) in the purporting judgment of comparison.] **A. Schlesinger.** 'Der Begriff des Ideals, III. Empirisch-psychologische Untersuchung des Idealerlebnisses; erste Lieferung.' [Continued from Bd. xv. After a detailed exposition of the results obtained from a questionary and from a formulary of questions, the writer attempts on their basis to reach a psychological definition of the ideal. The definition speaks, somewhat vaguely, of a peculiar emotional state; and the need to characterise this state leads to the revival of the definition of the earlier paper: that the ideal is that mental formation which for the experiencing subject contains, in pure form of transcendence, some object of value as connected with the requirement of its actuality (MIND, xix., 299). It is not, however, the *reine Ausserwirklichkeitsform* that gives the peculiar colouring to the emotional state; the uniqueness of the experience of the deal consists in the interconnexion of elements which, taken alone, are not peculiar.] **W. Betz.** 'Vorstellung und Einstellung. I. Über Wiedererkennen.' [Analysis of cases of uncertain and partial recognition shows that recognition is effected, not by means of memory-images, but by the 'impression' which the object makes, or the 'reaction' of the observer upon it; this reaction, which is composed of such material as kinæsthesis, organic sensations, feelings, is a stable formation, exactly reproducible; the writer names it *Einstellung*, in contradistinction to *Vorstellung* (thus narrowing the meaning of a current technical term). From recognition, he passes to a consideration of psychological similarity and identity, which again prove to be matters of reaction. The problem of identity is worked out, in detail, for the meaning of visual words, which is found to be carried by reactions, kinæsthetic, empathic or æsthetic. Here we are frankly within the province of individual psychology; the writer notes, *e.g.*, that the auditory verbal imagery which accompanies his understanding of words is more precise than memory-images at large; there is a factor of reaction involved (speech-movements, or disposition towards them); he accordingly names the auditory ideas 'perfected' ideas (*perfektionierte Vorstellungen*). In conclusion he remarks that persons, words, names may be identified with absolute confidence, spatial distances only with probability. Further publication is promised on general ideas, concepts, imageless knowledge.] Literaturbericht. **R. A. Pfeifer.** 'Literaturbericht aus dem Jahre 1908 über das Gebiet der optischen Raumwahrnehmung.'

IX.—NOTES.

MIND ASSOCIATION.

At the Annual General Meeting, held in Oxford, 10th June, 1911, it was resolved that the subscription to the Association be reduced from one guinea to sixteen shillings. As the yearly cost of the *Review* is twelve shillings, and as members of the Association receive the *Review* free of charge, the cost of membership is now four shillings only, and it is hoped that the reduction will cause a large increase of membership.

Mr. E. D. Fawcett, Dr. T. P. Nunn, and Mr. V. Subrahmanyam have joined the Association.

Those who wish to join the Association should communicate with the Hon. Secretary, Mr. Henry Sturt, 5 Park Terrace, Oxford; or with the Hon. Treasurer, Dr. F. C. S. Schiller, Corpus Christi College, Oxford, to whom the yearly subscription should be paid. Members who pay their subscriptions by bank order are requested to order their reduction to 16s., as the treasurer cannot undertake to return the difference.

Members resident in the United States of America may, if they choose, pay their subscription ($4) into the account of Dr. Schiller at the Fifth Avenue Bank, corner of 44th Street, New York, U.S.A.

THE BOLOGNA CONGRESS.

The Fourth International Congress of Philosophy was held this year at Bologna, from the 6th to the 11th of April. It would be hard to imagine a more interesting or picturesque setting to the assembly than this beautiful old town, the seat of the most ancient university in Europe, or to conceive of a warmer or more enthusiastic welcome than that accorded to the members of the Congress by the local university and municipal authorities, by the residents of the town, and by the Italian Press, whose keen interest in the proceedings, reported each day at length in the papers, was really astounding to visitors from a country where philosophy is a kind of obscure Freemasonry.

The opening ceremonies were performed, on behalf of H.M. the King of Italy, by the Duke of the Abruzzi, whose arrival, attended by a glittering military escort, was the most striking spectacle of the Congress. The inaugural address by the President of the Congress, the distinguished mathematician, Prof. F. Enriques, followed immediately. It was entitled, "The Problem of Reality," and dealt with the relations between science and religion, arguing that the spirit of inquiry characteristic of the scientist and the philosopher was itself one of the highest expressions of the religious spirit.

After this the Congress settled down to its work, both in the General Meetings and the Sections. It cannot be denied that in the latter some inconvenience was caused by the large number of absentees whose names

yet remained upon the list of readers. In consequence of this the time-tables were often completely thrown out of joint, a paper, for instance, which was announced as fifth on the list would, owing to the cancelling of all those placed before it, have to be read first at the opening of the session, and as a result be missed by members who had arranged their visit in accordance with the printed programme. So far, however, as similar difficulties occurred in the General Meetings they were to some extent obviated by the publication of a daily 'Bolletino' announcing changes in the original programme.

On Thursday a paper was read by Prof. Emile Boutroux, entitled "Du rapport de la philosophie aux sciences," and on Friday an interesting discussion on "Les jugements de valeur et les jugements de réalite," was opened by Prof. Emile Durkheim; Prof. Stout's paper on "The Object of Thought and Real Being" having unfortunately to be passed over in the absence of its author.

On Saturday occurred one of the most interesting meetings of the Congress. It was opened by Prof. Henri Poincaré's fascinating paper on "L'évolution des lois," which, since Prof. Poincaré was prevented from attending, was read by Prof. Borel, who had courteously journeyed from Paris in order to act as deputy. The argument of the paper was briefly that since explanation by natural law was the principle of all science, any apparent mutability in the laws of nature could only be satisfactorily regarded from the point of view of the discovery of a wider law which embraced such exceptions and accounted for them.

Prof. Poincaré's interesting and lucid contribution was followed by Mr. F. C. S. Schiller's address on "Error," a paper which aroused enormous interest and had been in all quarters eagerly looked forward to, because, as Prof. Maurice de Wulf, the Chairman, remarked in his introductory speech, its author, the originator of the new Humanist movement, had already by his writings stirred continental thought to its depths.

The theme of Dr. Schiller's paper will probably not be unfamiliar to readers of MIND. In it he reiterated his well-known contention that any valuable definition of Truth must be capable of distinguishing it from Error, and argued that this puzzle, which had baffled logicians from Plato onward, could only be solved by the Humanist recognition of the intention of an assertor, which could alone discriminate between a true and false proposition.

A warm discussion followed, in which, while the thesis of the paper was criticised from many points of view, its dialectical ability and literary grace came in for repeated praise, the tribute paid to it on this head by Prof. Roberto Benzoni of Genoa being particularly striking. Altogether it is a gratifying reflexion to English students of philosophy, that the only Congress paper which could pretend to rival Prof. Bergson's in its effect, was contributed by an Oxford professor expounding his own original theories.

The climax, however, of the Congress was reached, it was generally felt, on Monday, when Prof. Bergson delivered the speech just alluded to, which had been excitedly anticipated during all the previous week. The old 'Archiginnasio,' the scene of all the general meetings, was packed with a large crowd who listened in a silence, which had in it almost a touch of religious awe, to the exquisitely turned sentences of the great French metaphysician, who spoke without a single note for something like forty minutes on "Le problème philosophique". The address, which was remarkably free from technicalities, dealt chiefly with the proper attitude of the philosopher towards his subject. In distinction from the scientist, whose severe investigations into carefully restricted departments of reality give him an almost hostile air towards nature, the philosopher

will remember that "la sympathie avec soi-même et avec les choses c'est la fonction philosophique par excellence," and that his duty as a seer is "se mettre en unison avec quelque chose qui travaille hors de nous et en nous-mêmes". From philosophy pursued in this spirit we may expect, among many other benefits, a general "surcroit de vitalité" in human life.

The appreciative reception of this address is easy to understand, for while its simplicity made it easy for all present to follow the train of thought expressed in it, it was yet possible for ardent disciples of the Bergsonian school to recognise as its guiding principle some of the most familiar ideas of the master's philosophy.

As Professors Ostwald of Leipzig and Svante Arrhenius of Stockholm were not present to read their important and interesting communications, which were distributed at the Congress, the last general session was opened by Prof. Nelson of Gottingen, and Count Hermann de Keyserling, whose papers on Tuesday, 11th April, ended a programme of exceptional philosophic interest. The meetings were all most successful in spite of the fact that various speakers were from time to time inclined to forget that human life is short, however long the life of ideas may be, but the difficulty of persuading enthusiasts that public speaking is a matter of give and take is chronic at all such assemblages.

Naturally the Sections defy detailed treatment. One may refer in passing, however, to the excellent brief papers by Prof. Driesch, Prof. Deussen, M. Xavier Léon, Padre Gemelli of the Franciscan Order, and, as specially interesting to English visitors, Miss E. E. C. Jones's dissertation on "A New Law of Thought" (read for the authoress by Mr. Wildon Carr of the Aristotelian Society), Mr. E. H. Russell's paper on "Vitalism," and Mr. Prabhu Dutt Shastri's original and striking account of "The Doctrine of Maya in Indian Philosophy," another Oxford contribution. It was to be regretted that neither Signor Benedetto Croce of Naples nor Mr. A. W. Benn of Florence, though present, found it convenient to read papers to the Congress.

The division of the programme headed "Excursions et Fêtes" is a remarkable testimony to the generous hospitality of Bologna and its neighbourhood. The long round of courtesies culminated on the Sunday in a free excursion by special train to Ravenna. There the Congress was the guest of the municipality and passed a long day—almost the only warm and sunny one of the week—admiring the wonderful basilicas of the old Byzantine city and enjoying those opportunities of intercourse between thinkers of different schools and nationalities which are perhaps the great charm of gatherings of this type. Throughout the period no pains were spared by the President and Organising Committee to make the Congress as successful and pleasurable as it could possibly be, and it is to be hoped that when in 1915 the Fifth Congress comes to London, as, thanks to the efforts of Mr. H. Wildon Carr, it was enabled to arrange to do, in spite of a seductive offer from America, it will be the signal for an impressive rally of our English philosophers.

It should be regarded as a point of national honour to maintain the high standard set at Bologna, and, as we understand Mr. A. J. Balfour and Viscount Haldane have already consented to serve on the Organising Committee, there is hope that the occasion will appeal to philosophers of all parties. Hitherto the mass of British thinkers has certainly failed to appreciate the scientific and political importance of these international gatherings.

D. L. Murray.

ARISTOTLE AND THE MOON.

In the April number of Mind Mr. A. E. Benn speaks of Aristotle's 'crass conservatism, that made him refuse to believe in the axial rotation of the earth, and even of the moon, *in whose case it is a matter of ocular demonstration*'. May I, with all due respect, ask Mr. Benn what he means? For, as the moon always turns the same face towards the earth, it would seem to me that, so far as ocular evidence goes, we have every right to be convinced that she does not rotate at all. Indeed I must define my terms, and be extremely careful *ποῦ στῶ*, before I dare assert, or even admit, that the moon actually does rotate. Because, as a matter of fact, the moon revolves about her axis only in the same sense and to the same extent as the globe-trotting tourist turns head over heels once during his voyage of circumnavigation; before the eyes of heaven he no doubt turns a somersault, but not in the sight of men.

D. W. T.

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MIND

A QUARTERLY REVIEW

OF

PSYCHOLOGY AND PHILOSOPHY

I.—MR. BRADLEY'S DOCTRINE OF KNOWLEDGE.

By E. H. Strange.

The starting-point of Mr. Bradley's doctrine of knowledge seems to be the fact of feeling. In the first place, Mr. Bradley assumes that in feeling I do touch reality, and I touch reality only in feeling. Feeling alone is direct, feeling alone is given and not constructed from the given. "Experience may mean experience only direct, or indirect also. Direct experience I understand to be confined to the given simply, to the merely felt or presented. But indirect experience includes all fact that is constructed from the basis of the 'this' and the 'mine'. It is all that is taken to exist beyond the felt moment" (p. 248).[1] Feeling is the basis and pre-supposition of all mental advance, and that which persists as the background of all mental advance and gives our constructions actuality. It may be fleeting and fluctuating, and it may be difficult for us to catch it at all and say what it is; but nevertheless it is a datum which cannot be explained away, but which can be used to explain all further development of conscious life. "As a fact and given we have in feeling diversity and unity in one whole, a whole implicit and not yet broken up into terms and relations. This immediate union of the one and many is an 'ultimate fact' from which we start" (p. 569). It is that out of which everything beyond its own given and immediate self arises, on which, as a background, everything else plays its part, and into which everything else returns. This doctrine is to be

[1] References are to the second edition of *Appearance and Reality*.

found, explicitly or implicitly, throughout *Appearance and Reality*. For example, in the chapter on "Solipsism" (p. 252), Mr. Bradley writes as follows: "Now in answer, I admit that, to find reality, we must betake ourselves to feeling. It is the real, which there appears, which is the subject of all predicates. And to make our way to another fact, quite outside of and away from the 'this' which is 'mine' seems out of the question." Again, p. 254, "We have seen, so far, that experience, if you take that as direct, does not testify to the sole reality of my self. Direct experience would be confined to a 'this,' which is not even pre-eminently a 'mine,' and still less is the same as what we mean by a 'self'." Again, in the last chapter on "Ultimate Doubts," p. 526, "In a former chapter we noticed the truths contained in Solipsism. Everything, my self included, is essential to, and is inseparable from, the Absolute. And, again, it is only in feeling that I can directly encounter reality." Further, p. 459, "From mere pleasure and pain we may pass on to feeling, and I take feeling in the sense of the immediate unity of a finite psychical centre. It means for me, first, the general condition before distinctions and relations have been developed, and where as yet neither any subject nor object exists. And it means, in the second place, anything which is present at any stage of mental life, in so far as that is only present and simply is. In this latter sense we may say that everything actual, no matter what, must be felt; but we do not call it feeling except so far as we take it as failing to be more." (See also pp. 105-106, 159-160, 224.)

Feeling, then, is the original mode of consciousness. Or rather, it is not consciousness if by consciousness you mean some subject's awareness of something. It is simply there, so much stuff, not a blank whole, but yet not parted by the antithesis of subject and object. It is true that Mr. Bradley calls it "the experience of a whole" and again "immediate presentation," but we must dismiss the ordinary subject-object implications of these terms. Feeling is not an experient's act of experiencing something, or the presentation of something to some subject. It is a whole of being simply, not a whole of knowing, although when self and not-self have supervened upon it, it persists as that which holds together these two opposites. It is something on which perception, thought, and judgment, with their distinction of self and not-self, appear later in time.

Now granting that feeling, as Mr. Bradley describes it, is really to be found in my mental history, why should we believe that in it alone we encounter reality, rather than in

the objects of reflective thought and perception, or in the objects of imagination or of my dreams? Granted that definite objects (and the self which is opposed to such objects) are not original but developed out of a basis in which there is neither object nor subject, and granted that such objects occur on the "background of feeling" which still survives its disruption into self and not-self, is that any reason why we should go to this original and persisting basis to find reality, rather than to such definite objects? Why should we assume that only feeling is actual, and the not-self, as we shall see later, merely ideal?

There are, it seems, two main reasons why Mr. Bradley thinks that in feeling alone we directly encounter reality. (i) In the first place, it seems, he falls back on the traditional view that if we are to get anything indisputable we must go back to what is given, and the traditional tendency to interpret the given as what occurs first in time. Feeling is for Mr. Bradley *par excellence* given, in that it is prior even to myself, for it is the basis from which I myself and my objects are developed, on which we play our parts, and into which I myself and my objects return. Feeling alone is actual and therefore indisputable, while that which is constructed from the basis of feeling cannot, as such, be actual. But the obvious question is: Why should you think the given, as such, actual and indisputable? Because a thing is, if you like, thrust upon me, or prior even to myself, why should I accept it as unshakable? And, on the other hand, why is what is constructed from the basis of the given as such not actual but ideal? For aught I know what is given or original may be uncertain and disputable, just as what is constructed from the basis of the given may be indisputable. Each must be considered on its own merits quite apart from the question whether it is given or original, or not.

Moreover, we may challenge the whole doctrine of feeling as the original mode of consciousness. According to Mr. Bradley's psychology, to begin with there is merely feeling, a whole which is diverse, yet not relational, out of which all that we can discover later in our mental history is developed; and therefore whatever we may challenge, we cannot challenge feeling. All the objects of our later mental life, the whole scheme of things which we are aware of as we develop, and my self set over against these not-selves as subject, are literally constructions from and out of the "whole of feeling" with which we start, because every object must appear first as feeling before the primitive whole is broken up. "For all our knowledge, in the first place, arises from

the 'this'. It is the one source of our experience, and every element of the world must submit to pass through it" (pp. 224-225). Whatever is not actual and existent, feeling must be existent and actual, for if we cannot find actuality and existence in feeling, then where are these to be found? This doctrine seems to have all the vices of the *tabula rasa* notion of the mind. The *tabula rasa* doctrine and Mr. Bradley's doctrine of feeling each alike makes mental advance literally a process of construction from the given. And each alike tends to cast doubt on the mind's construction. As for the Kantian doctrine of knowledge the natural world is phenomenal, a tissue which hangs between the real subject and real things-in-themselves, so for Mr. Bradley all definite "things" are mere content which have somehow broken loose from the "whole of feeling," which is actual, as having both content and existence. Each alike tries to derive knowing from being simply, and, moreover, from subjective being. According to the Kantian doctrine, the phenomenal world is constructed out of data which are subjective determinations, and certain formal principles which are equally subjective, in that they too are projected out of the subject. According to Mr. Bradley, an object, as for example a chair, is something which has arisen out of the original "whole of feeling," which is neutral in that it is neither self nor not-self, and in that it survives when self and not-self have emerged, but which he describes as subjective or mental, in that it is "the filling of a finite psychical centre," and, in some way, the individual. Now, I maintain, nothing is given if by given you mean impressed on the mind as the matter of its knowledge from without, or simply *there*, a whole which proceeds to break up into content divorced from existence, thus constituting the fact of knowledge. The whole notion of the construction of objects out of the given is simply a metaphor which we are all of us liable at times to take seriously. Feeling is not a whole which is simply *there* or given, and which proceeds later to differentiate itself into self and not-self on a "background of feeling," in which the original "whole of feeling" persists. Feeling, like any other mode of theoretical consciousness, means the reaching out of some subject to cognise some object, although the object may be very vague: it means a feeler's feeling something. Feeling is the basis and pre-supposition of all mental advance simply in the sense that it occurs first in time, and is to be found accompanying all other mental activity, not in the sense that it is so much given matter, to which in my constructions I am limited, nor in the sense that it is that

out of which all my objects, and myself as opposed to these objects, have emerged. Mental advance does not mean construction, a process of building up into schemes of combination that which has broken out of the given in feeling. It means my going on to become aware of as definite and complex objects in relation to other objects what I was first aware of in feeling only as a vague whole, and therefore to become aware of a world of objects apart from, though related to, myself, wider and more complex than anything which can be given in feeling. These reflections show how idle it is to assert off-hand that in one particular mode of consciousness we have reality or actuality or what is indisputable, and how idle it is to suppose that you can have any satisfactory theory of knowledge apart from a metaphysical criterion of reality. There is no short cut to truth and reality. Mr. Bradley himself often makes this point. "We may put it thus once for all—there is nothing given which is sacred. Metaphysics can respect no element of experience except on compulsion. It can reverence nothing but what by criticism and denial the more unmistakeably asserts itself" (p. 207).[1]

(ii) In the second place, Mr. Bradley looks at the whole question of knowledge not from the point of view of the subject of knowledge, but from that of the observing psychologist who tries to find out what is going on in another person's mind. The psychologist seems naturally to tend to regard another person's mind as not, like his own mind, an apprehensive, emotional, feeling and volitional thing related to objects in the theoretical, emotional and practical relations, a thing directed outwards upon other things, but as a thing (like a material object in space) which can be explained by temporal, spatial and causal relations alone. He tends to leave out the fact that another person's mind does not merely interact with its environment, but is also apprehensive of its environment, and therefore he tends to forget that what is given to the subject he is observing is not mental data, but objects other than that subject. Moreover, because mental process is a series of momentary changes, therefore the psychologist is tempted to conclude that the

[1] Mr. Bradley does, indeed, teach that feeling contains the aspects of diversity and unity together harmoniously in one whole: feeling is an "immediate union of the one and many". But, unfortunately, every "whole of feeling" changes in time, so that we get a present felt whole and a remembered past, and in this way feeling involves all the difficulties of the reconciliation of oneness and manyness. You cannot catch feeling except as passing into something else. Nevertheless Mr. Bradley persists that feeling alone is existent and that feeling alone gives us reality.

person he is observing is confined to momentary and purely subjective events. And in these purely subjective events we have the bed-rock of fact. Everything else may be uncertain, but these mental facts of the moment are actual and indisputable: they are immediate and direct, but everything else is mediate in that it is built up or constructed from these facts, and is therefore precarious and not given.

This notion that fact, the given, the immediate, is confined to momentary psychical events, interpreted as purely subjective states, is both mischievous and groundless. The objection to treating mental events in the case of another person as being purely subjective and momentary is that this way of looking at the matter denies to the person you are observing just what you claim yourself in order to conduct your examination, namely, that your mental events are not purely subjective, but are directed outward upon what is not yourself, so that your given is not something momentary and fleeting and subjective. The only psychical facts that are purely subjective are pleasure and pain. All other psychical events are not only states of some subject, but are also directed towards objects either in the theoretical, emotional or practical relation. What is immediately or directly given to the subject, in any mental event other than deliberate self-consciousness, is not something purely subjective, some state or affection of the subject, but something not the subject. And whenever the self can be observed at all, it is always observed to be related theoretically, practically or emotionally to some not-self. What we never come upon is a self wrapped up in its own subjectivity. Moreover, what is given is not necessarily something momentary and fleeting. Suppose I think of the Great Wall of China as having been built gradually throughout a certain period by certain people and as having lasted many centuries. Then that object as having lasted centuries is as much given to me, and as much given to anyone who reflects upon the whole concrete situation of my-apprehending-the-Great-Wall-of-China, as much immediate fact, as a flash of lightning or the vague presence of my body when I am on the point of falling asleep. Of course, the Great Wall of China is an object that I became aware of comparatively late in my mental history. I was vaguely aware of my internal organs, I suppose, some time before I became aware of the Great Wall of China. And if Mr. Bradley's "whole of feeling" does really occur, then, no doubt, that "whole of feeling" occurred in my mental history before the Great Wall of China supervened upon it. But I cannot see why I should say *prima facie* that

in the "whole of feeling" I touch reality and actuality rather than in the Great Wall of China, or in any other object. It is purely arbitrary to say, without more ado, that momentary psychical event is fact, and the Great Wall of China as having lasted centuries is not fact but ideal.

It is begging the question, then, to regard some mode of consciousness as giving us actuality, apart from some metaphysical criterion whereby we may distinguish between reality and what is not real. The question of truth and falsity cannot be solved in this way. Everything I am aware of is given in the sense that what I am aware of is not produced by my being aware of it. And every object of my consciousness is indisputable in the sense that it cannot be other than what it is, and that reality must hold good for just that object—reality has just that object to offer for my apprehension. (These points will occupy us later.) In the only sense in which we have any business to talk about objects being indisputable in our philosophical discussions the indisputable is the real, that which cannot be shown to involve contradiction. The question what is real cannot, however, be settled off-hand by any psychological appeal to what is original, or by pointing to any particular mode of consciousness. This question can be decided only by a process of criticising objects offered to us to see whether they are self-consistent.

At this point we may ask what evidence there is for Mr. Bradley's "whole of feeling" on which the self and not-self supervene, and which persists as a background for self and not-self when they have emerged (pp. 90-93, 95-96, 109-111). The definite self and the definite object of the self, he tells us, are not original. To begin with there is neither self nor not-self, but merely a "whole of feeling," although in some way he decides that this "whole of feeling" is psychical, and identifies it with the individual. From this basis, which contains diversity, but is not differentiated, arise later in time a self and a not-self, which are both relational and differentiated, but all the time that a self and not-self occupy the foreground, so to speak, there still persists an internal "background of feeling" from which self and not-self have arisen, and which is a survival of the original "whole of feeling". The self may be set over against itself as an object, that is, become a not-self, and the process of distinguishing aspects of the self may go as far as you please, but still there will be a residue felt as not being all out there as a not-self. Moreover, a definite object may cease to be a not-self, that is, cease to be out there definitely before the

self, and slip back again into the internal "background of feeling," and so in some way become the self.

In the first place, granting that the self and not-self are not original, but developed from a basis in which there is neither self nor not-self, what right has Mr. Bradley to call this basis a "whole of feeling"? At the present moment the paper I am writing on is a not-self set over against my self. Suppose I go off into a brown study or fall asleep looking at this paper, then, I suppose, both this paper and the self would slip into the whole of feeling. But why is it a "whole of feeling"? At the present moment I can feel my internal organs and the hair of my scalp. If I attend to this whole situation I can discern myself feeling my internal organs and the internal organs felt. Each is but an abstract portion of the whole concrete situation. When Mr. Bradley calls the basis from which self and not-self are developed a "whole of feeling," does he mean feeling in the sense in which I talk about my feeling my internal organs? Clearly he does not, because feeling in this sense means a feeler's feeling something, and in the original "whole of feeling" self and not-self have not yet supervened. But if it cannot mean feeling in this sense, what does it mean? The truth seems to be that Mr. Bradley wants to describe the primitive basis from which self and not-self have arisen in terms which imply that it is subjective or psychical, and which imply a duality of subject and object,[1] if these terms mean anything, and yet he wants to make the primitive basis more fundamental and original than the self and not-self, so that by means of this basis he may explain self and not-self and resolve their duality. Again, what right has Mr. Bradley to call the background, against which self and not-self group themselves, when the primitive whole has broken up, a "background of feeling"? This term again implies a duality of subject and object, if it means anything at all. On the other hand, Mr. Bradley sometimes calls the background a "felt mass," a "felt core," and he talks about "a felt surplus in our undistinguished core". This surely implies that the background against which self and not-self group themselves is no background at all but an object for a subject.

This leads to another point, that Mr. Bradley seems to identify the original "whole of feeling" before the self and not-self have supervened, and the "background of feeling"

[1] On p. 106 Mr. Bradley describes feeling as "an apprehension too defective to lay hold on reality". What can this mean if it does not imply some subject's act of apprehending some object, however vague that object may be?

against which self and not-self group themselves with the self or individual. It is difficult to see how this can be. If I turn my attention upon any whole concrete situation that I can discover, I can discern myself, and I can discern something which is not myself, to which the self is related to make up this whole concrete situation. That is to say, my self is only an abstract portion of any discoverable whole concrete situation. Even in self-consciousness besides the self which occupies the foreground, so to speak, there are other objects which are not myself, however vaguely I may be aware of them. Even to talk about the self is to abstract, that is, to seize upon one portion only of a given whole concrete situation apart from the other portion, the not-self. What Mr. Bradley does is to take such an abstraction, and to drag in the other part of the whole as in some way not merely indivisibly united to it, but as actually given as it. The real reason why Mr. Bradley identifies the "whole of feeling" with the self seems to be this. He has made up his mind, as we shall see later, that in my perception of an object and in reflective thought about objects the only existence is subjective or psychical. So in the original basis from which perception and reflective thought are developed he is led to find something psychical, although no subject has yet emerged. At times, too, Mr. Bradley writes as though, when a not-self emerges from the primitive "whole of feeling," there were no self in the sense of something opposing the not-self at all, but simply a "mass of feeling much fuller than the object," simply a background on which the not-self appears (pp. 95 and 111). Here again he tries to reduce knowing to being simply, that is, he does not recognise the special relation between subject and object which all knowledge involves. When I recognise an object all that happens is that that object emerges from the original "whole of feeling" and occupies the foreground of this original whole, which still persists as a background, although you must not think that the terms 'background' and 'foreground' imply any spectator who distinguishes between the not-self and the "whole of feeling" with regard to the relative positions which they occupy.

Granted that my self and my objects are developed from a basis in which is neither self nor not-self, how can Mr. Bradley know that this basis occurs at all? He cannot observe this original basis at the time that it occurs, because at that time, *ex hypothesi*, no self in the sense of a subject of an object has yet arisen. When there is the original "whole of feeling" unbroken, there is no Mr. Bradley, as we know

him expounding, among other things, his own peculiar doctrine of feeling to us, that is, telling us of certain objects which he has succeeded in detecting, a subject of objects; and when Mr. Bradley, as such a subject, emerges out of the original "whole of feeling," this "whole of feeling" is broken up. How can Mr. Bradley observe what is *ex hypothesi* prior to himself *quâ* observing psychologist? Further, we cannot argue back to the original "whole of feeling". If I consider my own experience it is clear that I cannot find any ground for the doctrine. Whatever I am aware of, there is always myself as subject, and, moreover, myself as related practically and emotionally to my objects. In the case of another person (or of myself regarded as another person), granted, what seems impossible, that I can come upon a man who is, so far as I can gather, not related theoretically, practically or emotionally to any object, even then there is no ground for arguing back to a primitive whole from which the man as I usually meet him, an apprehensive, feeling, practical and emotional thing directed outwards in these ways upon objects, has emerged. Because even in this case I am aware of the man as apart from, though related to, an environment. What reason have we, then, to suppose that the primitive "whole of feeling," from which self and not-self emerge, occurs at all in my mental history? Mr. Bradley's attempt to get behind himself in this way and to resolve the duality of subject and object seems to break down. To use Mr. Bradley's own expression, if the "whole of feeling" does really occur in my mental history, I cannot know it; and in so far as I do know it, I know that it does not occur.

Mr. Bradley's position really collapses (i) when he tries to show why it is that we believe that certain elements in the "whole of feeling" never become objects, that is, a not-self, and (ii) when he tries to answer the question how it is that, when my self becomes an object, that is, a not-self, I yet recognise it as being myself. (i) With regard to the first question (p. 93), we feel a surplus in the "internal core of feeling" which we never find out there before us as a not-self. But in order to be able to say that this is the case, surely I must have the surplus in the "internal felt core" as an object, that is, a not-self, before me, just as much as the paper I am writing on. "Our feeling," says Mr. Bradley, "contains a margin which, in its general idea of margin, can be made an object, but which, in its particularity, cannot be. But from time to time this margin has been encroached upon." This seems a lot of knowledge about that which

cannot be a not-self. It can only mean that the "background of feeling," which is not exhausted by the definite not-self, is no background at all, not something which contains the self and not-self and their distinction, but itself parted by the opposition of subject and object. Take Mr. Bradley's example of a constant sound. There is a stage, he says, where we cannot say that the sound has ceased, and yet it is no feature of what comes as the not-self. Surely Mr. Bradley offers us this as an account of what he can observe about feeling when it occurs. And it must mean that the "background of feeling" is a not-self. It may be a vague and fluctuating object, but a vague and fluctuating object is just as much an object as the most definite thing out there before me. And, moreover, it must be a not-self for some self or subject, which decides that certain elements in the felt background are never definitely out there before it. That is to say, the internal "background of feeling" is not something neutral against which the opposing self and not-self group themselves, but an object. Mr. Bradley's *tertium quid* over and above, and containing subject and object, is a fiction.

(ii) With regard to the question of self-consciousness (pp. 110-111), Mr. Bradley writes as follows: "How, I may be asked, if self-consciousness is no more than you say, do we take one object as self and another as not-self? Why is the observed object perceived at all in the character of self? This is a question, I think, not difficult to answer, so far at least as is required for our purpose here. The all-important point is this, that the unity of feeling never disappears. The mass, at first undifferentiated, groups itself into objects in relation to me; and then again further the 'me' becomes explicit, and itself is an object in relation to the background of feeling. But, none the less, the object not-self is still a part of the individual soul, and the object self likewise keeps its place in this felt unity. The distinctions have supervened upon, but they have not divided, the original whole; and, if they had done so, the result would have been mere destruction. Hence, in self-consciousness, those contents perceived as the self belong still to the whole individual mass. They, in the first place, are features in the felt totality; then again they are elements in that inner group from which the not-self is distinguished; and finally they become an object opposed to the internal background. And these contents exist thus in several forms all at once. And so, just as the not-self is felt as still psychically my state, the self, when made an object, is still felt as individually one with me." First, how can

Mr. Bradley know that "the unity of feeling never disappears"? How can he know that the original basis groups itself into objects in relation to the self, when *ex hypothesi* this original basis is not differentiated into subject and object? We may present him with a dilemma. Either the original "whole of feeling" is from the first a concrete whole in which a subject is in relation to an object, although, of course, both subject and object may be very vague and shifting. Or we have no evidence for the continuity of mental life which Mr. Bradley asserts. But, more important than this, Mr. Bradley has not given a satisfactory answer to the question how, in self-consciousness, we take our object as self and not as not-self. He has only said that the object of self-consciousness has arisen from the original "whole of feeling". But all three, the not-self, the self as object, and the subject-self which apprehends the not-self and itself as objects, have arisen, each alike, from the original "whole of feeling," in which original whole, further, there is no feeler feeling anything. How then can we make the distinction at all? How can self-consciousness in Mr. Bradley's doctrine have any meaning? The great difficulty of Mr. Bradley's doctrine of the original "whole of feeling" is that it makes it impossible for me to know myself at all and to distinguish myself from another person or from a material thing. Commonly we distinguish between a self or spirit and sensible objects, between psychical and material existence. And I do commonly distinguish between myself and other persons. Mr. Bradley himself accepts these distinctions in stating his own doctrine, and in arguing against doctrines which he regards as unsound. But according to his doctrine of the original "whole of feeling," on which self and not-self supervene later in time, it seems impossible that these distinctions ever could arise at all. At this moment, the paper I am writing on is a not-self to me. And myself as reflecting upon this present topic of self-consciousness is a not-self to me. But how comes it that I can identify myself with the latter not-self and not with the former, if all alike, my present subject-self, self as object and this paper, have arisen from one undifferentiated "whole of feeling"? And how comes it that I can refuse to identify myself with another person, if that other person, as not-self to me, and I myself as subject have arisen alike from the original "whole of feeling"? Mr. Bradley, of course, believes in different "psychical centres," but it seems impossible for him, starting from what he allows in his doctrine of the "whole of feeling," to avoid solipsism. It may be the case that "the process, which conducts you

to other selves, is not weaker sensibly, if at all, than the construction by which your own self is gained" (p. 257). But both my own and other selves, as I know them, are ideal constructions developed out of a "whole of feeling" which Mr. Bradley seems to identify with myself. This is implied in his doctrine that the "whole of feeling" is psychical, and in his assertion that a not-self may slip back again into the "background of feeling," and so become the self. Mr. Bradley himself may believe in different "psychical centres," but if his doctrine is true, how can I become aware of different "psychical centres" at all? Here again Mr. Bradley's doctrine seems to involve the impossibility of its own assertion, and to demand more for its assertion than it allows by its assertion.

Let us pass on to examine Mr. Bradley's interpretation of the fact of perception. In the chapter on "The Meanings of Self" (p. 77), we get the following passage: "Take a section through the man at any given moment. You will then find a mass of feelings, and thoughts, and sensations, which come to him as the world of things and other persons, and again as himself; and this contains, of course, his views and his wishes about everything. Everything, self and not-self, and what is not distinguished as either, in short the total filling of the man's soul at this or that moment—we may understand this when we ask what is the individual at a given time." Here Mr. Bradley looks at the matter from the point of view of the psychologist who inquires what is going on in another person's mind. But we must remember that it is not the business of the observing psychologist, as such, to consider the whole concrete situation. He abstracts in that he turns his attention upon one portion only of the whole concrete situation, namely, the mind of the person he is observing. And, moreover, he seems to be strongly tempted to bring in the remaining part of the whole concrete situation as in some way dependent upon the mind of the person observed. So it is with Mr. Bradley. Take a man's mind at any given moment, he says, and you have got that man's environment, all that upon which his mind is directed, at the same time. However, in the chapter entitled "The General Nature of Reality (continued)," Mr. Bradley protests against any such attempt to abstract one element from a concrete whole, and treat it as real in abstraction (pp. 144-147). "For if, seeking for reality, we go to experience, what we certainly do *not* find is a subject or an object, or indeed any other thing whatever, standing separate and on its own bottom. What we discover rather is a whole in which distinctions can be made,

but in which divisions do not exist. And this is the point on which I insist, and it is the very ground on which I stand, when I urge that reality is sentient experience. I mean that to be real is to be indissolubly one thing with sentience. It is to be something which comes as a feature and aspect within one whole of feeling, something which, except as an integral element of such sentience, has no meaning at all. And what I repudiate is the separation of feeling from the felt, or of the desired from desire, or of what is thought from thinking, or the division—I might add—of anything from anything else."

If Mr. Bradley means that the concrete nature of reality is to be found in situations such as my whole apprehensive, emotional, feeling and volitional self together with certain wholes of objects to which it is related theoretically, emotionally and practically, then we can heartily agree with him. But why call such whole concrete situations "sentient experience," "psychical existence"? Why say that "feeling, thought, and volition (any groups under which we class psychical phenomena) are all the material of existence"? In the whole concrete situation of myself as I was a moment ago together with the view to which I was attending I can make distinctions, that is, I can attend to certain portions of the whole concrete situation without considering other portions. And in that whole situation one distinction I make is that between my apprehensive, emotional, feeling and volitional self, on the one hand, and my objects on the other. Myself, on the one side, and the trees and houses I was looking at, on the other, are apart from, though related to, each other, as my right boot is apart from, though related to, my left. I am not the trees and houses any more than one of my boots is the other. And I do not include or contain the trees and houses, any more than my right boot includes the left. Now in the ordinary propriety of speech we should not designate the trees and houses that I was looking at a moment ago by the term "psychical existence". This term would be restricted to such things as my feelings, emotions, volitions, thoughts, that is, to certain parts only in the whole situation of my concrete self together with the objects to which I was in theoretical, emotional and practical relation. Neither would this term be used to designate such whole situations. The whole concrete situation of my-self-together-with-the-scene-to-which-I-was-attending is not psychical existence any more than it is material existence, for these terms designate certain abstract portions which can be discerned in any given situation. Moreover, such a

whole concrete situation ought not to be called "sentient experience," which means some subject's acts of sensating something, again merely an abstract portion of any discoverable situation. Further, is it correct to talk about any given whole concrete situation as "being experienced"? In the whole situation of myself together with the scene at which I was looking I can discern, more or less, the things I was apprehending, and I can detect, more or less, myself as apprehending them. These are abstract portions in "a whole in which distinctions can be made, but in which divisions do not exist". Now I can talk about the trees and houses I saw a moment ago being experienced, namely, by myself, but how is the whole concrete situation of myself and the trees and houses I was looking at, at the moment when this concrete situation occurred, to be described as "a whole which is experienced"? Of course, it may have been that at the moment when I was looking at the scene before me some subject was attending to me and my objects. If this was really the case, then myself and my objects formed "a whole which was experienced," but in order to be able to say this you must appeal to something which was not experienced, namely, the subject who was attending to me and my objects. What is experienced can only be an abstract portion of any discoverable whole situation, because what is experienced demands an experient to experience it, and therefore any whole concrete situation cannot be "a whole which is experienced".

It is perfectly true to say that any piece of existence that I can find is indissolubly united with perception and feeling, so that we cannot "continue to speak of it when all perception and feeling have been removed, or point out any fragment of its matter which is not relative to this source," if by perception and feeling you mean some subject's act of perceiving and feeling some object. But it is false if you mean that everything I can discover is either a "whole of feeling" itself (a kind of neutral background which is yet psychical, and which proceeds later to differentiate itself into definite self and not-self, while still persisting to contain these differentiations), or such differentiations of the primitive "whole of feeling," which are rooted for their existence in this "whole of feeling". Moreover, it is equally true that you cannot catch yourself as perceiving and feeling except as indivisibly united to some material existence. You cannot argue from the fact that material things are never discovered except as indivisibly related to some psychical existence to the assertion that material things *are* psychical existences. Any concrete

situation that you can discover contains both a psychical and a material existent. Even granted (what seems to be untrue) that I can sometimes come on myself not related practically, emotionally or theoretically to material things, as in moments of great excitement, yet when I am thus related to material things, the latter are not psychical existences, however closely they may be related to psychical existences.

Closely connected with Mr. Bradley's doctrine of feeling and perception is his view of thought and judgment. The subject is treated in the chapters on "Thought and Reality," "Error," and "Degrees of Truth and Reality". In judgment "we find thought in its completed form. In judgment an idea is predicated of a reality. Now, in the first place, what is predicated is not a mental image. It is not a fact inside my head which the judgment wishes to attach to another fact outside. The predicate is a mere 'what,' a mere feature of content, which is used to qualify further the 'that' of the subject. And this predicate is divorced from its psychical existence in my head, and is used without any regard to its being there. When I say 'this horse is a mammal,' it is surely absurd to suppose that I am harnessing my mental state to the beast between the shafts. Judgment adds an adjective to reality, and this adjective is an idea, because it is a quality made loose from its own existence, and is working free from its implication with that. And, even when a fact is merely analysed,—when the predicate appears not to go beyond its own subject, or to have been imported divorced from another fact outside—our account still holds good. For here obviously our synthesis is a reunion of the distinguished, and it implies a separation, which, though it is over-ridden, is never unmade. The predicate is a content which has been made loose from its own immediate existence and is used in divorce from that first unity. And, again, as predicated, it is applied without regard to its own being as abstracted and in my head" (see the whole passage, pp. 162-165).

Mr. Bradley's view of the nature of thought and judgment is parallel to his treatment of feeling. He looks for the contents predicated in judgment in something mental, something in the predicator's mind. It is true that he expressly rejects the view that what I predicate is some fact "in my head". At the same time, he asserts that what is predicated is something which has its existence "in my head". This doctrine seems as false as the doctrine he rejects. When I say "This paper is white," am I joining to the paper a content divorced from its existence "in my head" or "in my

mind"? Clearly not. Here we have again an abstraction offered us as the whole situation. I affirm that this paper is white. What Mr. Bradley does is to turn his attention exclusively upon one abstract portion of the whole situation involved in my affirming whiteness of this paper, namely, my mind. And he offers us this abstraction as the whole, in that he tries to drag in the rest of the whole situation as in some way, not merely indivisibly joined with the first portion, but as actually given in, and as, that portion. He asserts that the predicates predicated are not mental events or states of my soul. Rather they exist, he tells us (p. 301), in "so far as the psychical states do *not* exist". But they are apart from mental events only *quâ* content. If we are to find existence for them we must go to mental events, for they have broken out of the original "whole of feeling," and they are rooted for their existence in the "whole of feeling," which survives its disruption into self and not-self. Now in the whole concrete situation of my affirming that this paper is white I can discern myself as in a certain state, namely, the state of predicating whiteness of this paper. Myself as in this state is an existent thing of a certain character. I can also discern the paper about which I make the affirmation, again an existent thing with a content, part of which content I detect and affirm as belonging to the paper. But the content of my mental state is not the paper nor the whiteness which I predicate of the paper, any more than the whiteness which I detect and assert as belonging to the paper is my act of affirming whiteness of the paper, or any part of the content of this mental fact; although part of the content of this mental fact is that this fact is one whereby I assert whiteness to belong to the paper. Describe the character of the mental fact involved in my predicating whiteness of this paper as fully as you please, and you cannot find whiteness as part of that character.

Mr. Bradley's 'idea' is a fiction. Attributes of the thing about which I make assertions we all know, and mental events and their characters we know. But what is a content of the mental fact of judging, which is divorced from its existence as that mental fact, and which is yet the character which, in judging, I assert to belong to the subject of the judgment? Whatever judgment is, it is not thrusting on reality the character of my mental events. Moreover, judgment is not thrusting on reality anything at all. Judgment does not add adjectives to reality, but discerns adjectives as belonging to objects. When I judge that this paper is white, I do not spin out of myself, or loosen from my state, the

whiteness. Whiteness is a character which I detect as belonging to certain objects which are not myself, as, for example, paper and snow. It is not mental. Judgment does not mean adding to reality content divorced from existence, because the notion of content divorced from existence is a fiction. Qualities do not fly about loose to be attached to existence by mental process, or by any process whatever. Particular qualities may be specially regarded. I can attend to the whiteness of this paper, for example, without attending specially to its other qualities. But this paper is "a whole in which distinctions can be made, but in which divisions do not exist". One is apt to be led astray here by crude material metaphors taken seriously. The difficulty of describing mental facts is that all or most of the terms we use are metaphorical, and apply primarily to material things. We tend naturally to think in spatial terms even about things which are not spatial, and it is only the confusion thus introduced into our thought which leads us to recognise the fact that our treatment is not literally accurate. For example, take what is sometimes called "metaphysical analysis". People talk about analysing a thing into its qualities, as though I could literally take qualities apart from one another—as though I could literally extract a quality from the concrete existent thing of which it is a quality, and hold it in isolation from that existent thing, as I can take a brick out of a wall. They do not see that analysis means discerning, that is, specially attending to, one quality after another as being all the time a quality of an existent concrete thing. Again, people talk about the categories of thought as being various instruments whereby in thought we break up, and reconstruct as an abstract and definitely systematic whole, that which is presented in sensation as a vague continuum. All this is pure metaphor. I do not break up what is presented as a continuum in sensation. Nor do I in thought construct a definite scheme of things out of the products of my breaking up the sense continuum. In thought I discern how that world which I am aware of as a vague whole in sensation is differentiated and unified. Also, people talk about judgment as a process of qualifying or determining objects,—as though, when I assert a quality of a thing, I do literally stick a fresh quality into that thing, or make the thing by adding characteristics to a blank, formless whole. In the same way, Mr. Bradley seems to believe that when I predicate whiteness of this paper, a content which is literally loosened or divorced from some mental existence proceeds to attach itself to reality.

Mr. Bradley seems also to have been led astray about the image. He protests against the error of Berkeley and Hume of identifying the image with the object of thought. But, nevertheless, he does regard the image as constituting the object of thought by means of its character. "Wherever the predicate is seen to be supplied from an image," he says, "the existence of that image can be seen at once *not* to be the predicate. It is something clearly left outside of the judgment and quite disregarded" (p. 187). But part of the content of the image *is* the predicate predicated of the object. This view is surely mistaken. For example, I may predicate whiteness of snow, and I may help myself out by means of an imagined white thing, just as I may make use of the perceived whiteness of this paper for the same purpose. But the whiteness I predicate of snow is not torn out of the imagined white thing, any more than it is torn out of the perceived thing, namely, this paper, when I make use of this paper to enable myself to make a judgment about snow. When I predicate whiteness of snow and do so by means of the perceived whiteness of this paper, this paper does not in the act of predication lose its white colour. And in the same way, when I predicate, without making use of a perceived thing, my mental events do not *ipso facto* lose part of their content. Mr. Bradley describes judgment as a mere process of re-arrangement, or re-distribution of content, between self and not-self and the "background of feeling" from which self and not-self have emerged. The whole doctrine of the divorce of content from existence seems to be metaphysically impossible. How is it possible to extract a content from an image or percept, or indeed to extract a quality from anything whatever? And how can a not-self receive a quality made loose from a fact "inside my head"? The image is merely the medium or vehicle of thought. It is neither the thing thought of nor the act of thinking of the thing. It is analogous to the diagram I draw on paper in order to assist myself to discover the nature of geometrical objects, and it is just as little mental as the perceived diagram.

Mr. Bradley seems to confuse the image not only with the object of thought, but also with the subject's act of thinking and predicating of the object. Or rather, he seems simply to substitute the image for the subject, and to give an account of judgment without bringing in anything over and above fact of the moment. He writes as though the image were the only psychical thing that occurred at all when I predicate whiteness of an object. He tries to do away with the predicator altogether, and this is, of course, supported by his

doctrine that the self, like every other 'thing' short of the Absolute, is ideal. Apparently when I predicate whiteness of an object there occurs an image (which is a mental fact). Part of the content of this mental fact, namely, whiteness, divorces itself from its existence, and transfers itself to an existence which is not the existence to which it originally belonged. And this is all. There is no subject which discerns whiteness to belong to an object, and which announces this fact in judgment for the benefit of others. It is easy to see why Mr. Bradley should think this account of judgment to be adequate. By regarding the image as the mental factor involved in judgment, Mr. Bradley is led to suppose that there is no need to go any further. Once, however, we recognise that the image, when I do use an image, is not mental, but something not myself which I make use of to enable me to predicate, we must find the mental factor involved in judgment in the act of judging on the part of some subject.

The result of Mr. Bradley's doctrine of the nature of thought and judgment is that any definite 'thing' short of the Absolute is mere content divorced from existence, mere ideal construction. In the chapter on "Body and Soul" (pp. 300-304 and 306), we get this point quite clearly. Mr. Bradley seems to look at the matter thus. The basis of all thought and judgment is the original "whole of feeling," which is psychical, and which he identifies in some way with the individual. This original "whole of feeling" has diversity, and is also existent, because it is the basis from which everything that we find involved in higher stages of thought is developed, and if existence is not to be found in this basis, where shall we find it? On the original "whole of feeling" supervene later in time the self and not-self. Mr. Bradley concludes that the momentary mental event, the "immediate unity of quality and being which comes in the 'this,'" is an actual existent, but any not-self consists in mere content. For, in the first place, thought works by way of content. I distinguish one object from another by means of its character. That is to say, when a definite 'thing' has supervened upon the original "whole of feeling," content has broken out of that whole, in which existence and content are joined, although at a stage below that of reflective thought. In the second place, owing to the abstraction that we have noticed before, the seizing upon the mental factor in the whole concrete situation, and treating that as the whole, Mr. Bradley finds existence only in the mental event of the moment, and any object (short of the Absolute) can only be content di-

vorced from its existence as that mental event. Moreover, Mr. Bradley believes that in judgment content is literally supplied to the subject of judgment. But he draws the line at supposing that existence can be supplied too. So he comes to the conclusion that the object seized upon by thought, which works by way of content alone, must be ideal.

Now a thing thought of is not a product of thought. That is either a misleading metaphor or a confusion of thought. My act of thinking of an object may be called a product of thought, if you like, in that it may have cost me much patient exertion to attain to the apprehension of that object. But it is not literally true that I have produced such an object. The character I apprehend as belonging to this paper and the character I think of as belonging to myself are not spun, or projected, out of the thought of the moment which thinks of them. Neither is the existence of these contents to be found in the thought which thinks them. Every content is indivisibly united to existence, and the "that" of any "what" is not further from the thought which thinks of the "what" than the "what" is. Take the whole situation of my thinking of this paper as having a certain character. In that whole concrete situation I can discern myself, an existent thing with a content, and the paper, also an existent thing with a content indivisibly united to its existence. The paper is apart from, though related to, myself who apprehend it. I do not contain or include the paper any more than the paper contains or includes me. Nor is there any psychical *tertium quid* on which the paper and myself cognising the paper appear. I cannot think of the paper under any of its qualities except I am aware of these qualities as inhering in a "that," and further there is no need to go for this "that" to the thought of the moment.

Further, it seems difficult to see, on Mr. Bradley's doctrine, how he can be aware of existence at all,—how he can state his own case. Existence would be confined to the original "whole of feeling" and the mental event of the moment, the present state of my soul, as they occurred. The moment I reflected on the "whole of feeling" and on the mental event of the moment, in order to theorise about them as Mr. Bradley does for our benefit, and made them objects to myself, they would become ideal, that is, divorced from existence. Their presence on the background of a further "whole of feeling," a co-existing mass which is simply there and not "parted and joined by relations even of co-existence," would be actual fact, for it would help to form this

mass, but they themselves would be mere content divorced from existence as this mass. To find existence for them I should have to go to the momentary psychical mass on which they have appeared, but this again would be impossible, because that mass in its turn, *quâ* object of thought, would be mere content divorced from the existence of a further immediate "whole of feeling," and so on for ever. The doctrine seems to involve the impossibility of its own assertion.

Above all, the self which thinks and judges is not an ideal construction, but an existent thing. On what principle is it possible to maintain that the self is not actual and given? I am aware of objects which are momentary like a flash of lightning or a twinge of pain, and I am also aware of objects like my self, which I cognise as existing for long periods of time and as being exceedingly complex in nature. Now on what principle can you say that my first cognition is direct experience and its object given and actual, whereas my second cognition is not direct experience and its object not given and actual, unless beforehand you define the directly experienced, the actual, as what is momentary and not definitely complex? Every object that I am aware of, I am aware of as having two aspects, a "that" and a "what," an existence and a content. This antithesis seems to be quite fundamental. I cannot be aware of an object which is nothing in particular: every object, to be cognised at all, must be cognised as having a character. And on the other hand, the character by means of which I grasp an object must inhere in an existence which is inseparable from that character. Moreover, every object that I am aware of is not in any degree made what it is by my awareness of it. In order to be in a position to say that my awareness of an object constitutes in any degree that object, I must either be aware of that object without being aware of it (in order to compare it as it is apart from my awareness of it with what it is in the fact of my being aware of it), which is impossible; or I must argue to what it is, apart from my awareness of it, from its nature as I am aware of it, and discern in its nature as I am aware of it that it is different apart from my awareness of it. But an object as I am aware of it will give me no guidance as to its nature apart from my awareness of it. Since I only know my objects as they are in the fact of my knowing them, I can never be in a position to know that my knowing them in any degree constitutes them. Whatever I am aware of as the character and being of an object is *there*, apart from, but related to, myself who am aware of it. You cannot resolve knowing into making, or constituting, objects, or into any-

thing but itself; and if you could, it seems difficult to see what meaning you could give to that which was used as an explanation of knowledge.

But here at once we are faced by a fundamental objection. "What about error?" we are asked. "Have you not swallowed the problem of error whole? A doctrine like Mr. Bradley's is framed with the problem of error in view, whereas you talk as if you had never heard of the facts of contradiction and error at all." In answer to this, I must protest, first of all, against the assertion that the problem of error presents any special difficulty to a doctrine such as I have tried to elaborate. The problem of error equally besets all accounts of knowledge. It is a rock upon which all philosophies split. If I am in error, in some way or other there is involved the unreal. Now whether you say that this unreal is due to a process of falsification upon my part, or whether you say that the unreal, by which, in error, I am confronted, is in no degree constituted by me, in either case you are faced by the fundamental metaphysical difficulty how the unreal can ever present itself in any way whatever. To say that I have falsified in some way certain indisputable data, like every other psychological account of the origin of error, does not help in the least. Apart from the difficulty on what principle you are to find these data, and the difficulty how these data can be indisputable, since such data can, *ex hypothesi*, be worked up into a false product or construction, the fundamental difficulty is how there can be anything falsified, whether it be product or construction of thought or anything else, at all. As Mr. Bradley puts it, p. 186: "We cannot, on the one hand, accept anything between non-existence and reality, while, on the other hand, error obstinately refuses to be either. It persistently attempts to maintain a third position, which appears nowhere to exist, and yet somehow is occupied. In false appearance there is something attributed to the real which does not belong to it. But if the appearance is not real, then it is not false appearance, because it is nothing. On the other hand, if it is false, it must therefore be true reality, for it is something which is. And this dilemma at first sight seems insoluble. Or, to put it otherwise, an appearance, which is, must fall somewhere. But error, because it is false, cannot belong to the Absolute; and, again, it cannot appertain to the finite subject, because that, with all its contents, cannot fall outside the Absolute; at least, if it did, it would be nothing. And so error has no home, it has no place in existence; and yet, for all that, it exists." You cannot appeal, then, to the fundamental

metaphysical difficulty of error in support of any particular doctrine of the nature of thought.

Take, for example, the chimera, which we are all agreed in condemning as a mere "figment of the imagination". We condemn the chimera because we cannot fit the chimera into the scheme of our ordinary thinking. If you take the chimera seriously, in the same way as you take the horses you see in the street seriously, you will get into confusion in your ordinary practical life. But it is equally true that the scheme of things which I am not prepared to give up in my practical life will not square with the chimera. The chimera may be as fragmentary and isolated an object as you please, but then the scheme of things I accept as the result of my most strenuous efforts to understand the world is not completely self-contained and coherent. It has ragged edges, as Mr. Bradley puts it, and internally also it shows discrepancy. The chimera may not be so real as myself or the horses that I see in the streets, but it is not utterly unreal, in that it does hold together to some extent. And, moreover, it coheres with objects like itself, for like every other object that I am aware of, I cognise it as in a setting or background. You will not meet the chimera in the ordinary natural world of practical life, but neither are the horses I see in the streets to be found in the chimera's world. The chimera is *there* when I attend to it, just as I am *there* when I attend to myself. Reality has just the chimera to offer for my cognition, as reality is just good for the presentation of myself to me. It is a monstrous proceeding to equate the chimera to nothing at all. The chimera must in some way fit into the complete scheme of reality. However, it may be objected that such imaginary objects as the chimera are clearly constructed out of elements of previous experience. The chimera is a compound of lion and dragon and goat. Such objects as the chimera and the hydra and the unicorn and centaur were invented by putting together parts of the animals given immediately in experience. This account of the matter is purely metaphorical. Take an example which appeared in *Punch* some time ago. Suppose I imagine an interesting combination of a bull-dog and a frog. In order to do this, I do not literally take out of a frog and a bull-dog certain of their characteristics or parts, and literally stick them together. I have never so maltreated dumb animals. I simply go on from bull-dogs and frogs, as I know them in the ordinary natural world, to the apprehension of a creature like each in some respects. Such a creature is, of course, most incoherent and self-contradictory. The more I

try to think of his precise nature in detail, the more fragmentary I see him to be, and the more his own inherent absurdities show themselves. But even such a creature is not utterly unreal and utterly self-contradictory. He is not to be equated to nothing at all, and he does cohere to some extent. No doubt, in order to become aware of such a monster, I must first have had experience of bull-dogs and frogs. But in the same way, in order to appreciate the properties of triangles demonstrated in the later propositions of the first book of Euclid, I must first be aware of those properties asserted and demonstrated in the earlier propositions. And in order to become aware of the world as a comprehensive and systematic scheme I must first become aware of it as less comprehensive and less definitely systematic. This objection does not dispose of the fact that the 'compound' of the bull-dog and the frog is *there* to be cognised, just as much as the properties of the triangle revealed in the later and more difficult propositions of Euclid's first book are *there* to be cognised. Each stage in knowledge is the necessary condition of a further advance. All that is required is that you should perform the necessary act of cognition. It may be urged that certain objects are only apprehended in certain peculiar states and by certain peculiar individuals. One only sees blue snakes, for example, when one is suffering from delirium tremens. Only those of a suspicious turn of mind see injury and insult where none is intended. I may be so full of certain doctrines which I regard as unsound that I see these doctrines everywhere. Now apart from the difficulty how it is possible to define these peculiar states or peculiar individuals without appealing to the peculiar objects in question, this objection is perfectly true but entirely irrelevant. In order to apprehend any object whatever, I must be in a certain appropriate state. At the present moment I cannot apprehend the blue snakes of delirium tremens as the delirious patient does, any more than I can apprehend the concrete character of skew curves, because I am not drunk and I am not a mathematician. Such objects are detected only by certain peculiarly favoured individuals. To become aware of the blue snakes of delirium tremens or of the nature of skew curves, I should have to go through a long course of preparation and discipline. The facts of error and contradiction, then, do not provide any evidence for the doctrine that knowledge is a process of constructing objects. Error means that the individual in error believes in that which is unreal, which unreal is in no degree constituted by the individual *quâ* knowing subject.

And so we may answer Mr. Bradley's contention that self-consciousness involves a vicious circle (p. 306). There would indeed be a vicious circle if the soul were an ideal construction, something produced by the thought which thinks of it, for this thought itself demands the soul, whose state it is, in order to think of the soul. But the soul is not an ideal construction, not something which, *quâ* product of thought, necessitates the prior existence of the thought which thinks it. The soul has existed before the thought of the moment, and in self-consciousness the soul is not produced by the thought which thinks of it, but discovered to itself in a momentary act of cognition. Moreover, apart from this objection, we may question Mr. Bradley's vicious circle on another score. "Thought," says Mr. Bradley, "is a state of souls, and is therefore made by them. . . . This construction [of the soul] itself appears to depend on a psychical centre, and to exist merely as its 'state'." Now if the thought of the moment by which the soul is constructed is existent, and the soul is not existent but ideal, as being the product of the thought of the moment, how can the thought of the moment be a state of the soul? How can that which is merely ideal have as its state what is existent? We may offer Mr. Bradley a dilemma. If the soul is not existent, then its state, the thought of the moment, is not existent. And on the other hand, if the thought of the moment is existent, then the soul, whose state it is, must be existent. Mr. Bradley seems here to be playing fast and loose. He puts forward a characteristic doctrine of his own, and at the same time he wants to be allowed to take advantage of a common doctrine against which his own view is directed. He denies that the soul is existent, and yet he asserts what is only legitimate to one who believes that the soul is existent, namely, that the existent thought of the moment is a state of the soul.

The final working out of Mr. Bradley's doctrine of knowledge is to be found in his account of truth. The subject is treated in the chapters on "Thought and Reality" and "Degrees of Truth and Reality" (see especially pp. 165-169, 170-171, 178-179, 182, 360-361). For Mr. Bradley truth is the ideal of thought. It means completed thinking. Thought operates by means of content. But any content will be found to involve contradiction. Both internally when we consider the distinctions within it, and externally when we consider its relations to other objects, it leads to the infinite process. Truth is the effort to remedy this, as it were, homœopathically, that is, by taking in more and more of content and by making further and further distinctions within our system of

content. Even if this were accomplished, and we had a perfectly harmonious and all-comprehensive system of content, yet, after all, content must refer to something else which has the content. After all, thought is *about* something which it *is* not. And the fact of this something for ever prevents thought from attaining consummation. If we did get a perfectly harmonious system of content, we should still have left on our hands the "whole of feeling," from which content has broken out, and in which content and existence are somehow joined. Thought can only reach consummation if we have a system of content rejoined to existence, in some way above discursive thinking, as feeling is below it. "Reality, as it commonly appears, contains terms and relations, and indeed may be said to consist in these mainly. But the form of feeling (on the other side) is not above, but is below, the level of relations; and it therefore cannot possibly express or explain them" (p. 107). Thought cannot *make* reality, and therefore the ideal of truth is attained only when thought is, as such, transformed and *becomes* reality, when knowing becomes absorbed into being, as it originally sprang out of the disruption of being.

The basis of Mr. Bradley's doctrine of truth is the view that every object of reflective thought is ideal, a product or construction of the mental fact which thinks it, and in which it is rooted for its actuality, so that, therefore, thought works by content alone. This doctrine we have seen reason to doubt. An object of thought is as much existent as the mental fact which thinks it, and has a "that" in its own right apart from, though related to, this mental fact. Objects are not content projected out of, or divorced from, the mental event of the moment. They are existent things with a certain content apprehended by the thinker, who is also an existent thing with a content. It may be the case that every object of thought is inconsistent, and that therefore thought is compelled "to take the road of indefinite expansion". But this does not mean the emergence on the "background of feeling" of more and more of pure content. It means the subject's going on to become aware of a wider and wider existent thing with its content. And therefore there is no reason to believe that thought must, as such, be transformed in order to reach its consummation. Truth, the ideal of thought, would still be thought. It would be some subject's apprehension of (and belief in) the absolutely self-consistent. Granted, as Mr. Bradley does grant to begin with, that truth is an affair of thinking, then we see that thought is some one's thought of something. That is to say, thought is an abstract

portion of some concrete whole. If this is the case, then it is not legitimate to identify the ideal of thought with the concrete whole *par excellence*, namely, the Absolute. Reality is neither true nor false. It is, it exists, it is real; but it is not true. The Absolute has no Other, but thought, it is clear, is of an Other. Mr. Bradley is led to make the Absolute the consummation of thought because he will not admit the special nature of the cognitive relation. He describes thought as he would describe what is merely an object of thought, without bringing in the point that thought is some subject's thinking of some object. Such an account of thought seems to be untenable. It is impossible to avoid bringing in the subject if we are to give an account of mental advance. A given piece of content which has supervened upon the primitive "whole of feeling" does not recognise its own inconsistency. And it does not begin to become wider and wider of itself, and spontaneously make further and further distinctions within itself. It is the subject, who is not the content, who recognises the inconsistency and inadequacy of that of which he is aware, and in so doing strives to know his object in its self-consistent and complete nature. And therefore, even if thought were consummated, there would still be this subject.

It is interesting to consider the treatment of the question of truth which we get in Mr. H. H. Joachim's *The Nature of Truth*. Mr. Joachim is, I take it, fundamentally in agreement with Mr. Bradley. At the conclusion (§§ 42-44, 60), Mr. Joachim has to admit that it is impossible to bridge the gap between the ideal of truth and ordinary concrete thinking. And it is impossible for two reasons. First, all actual thinking is some one's thinking: every ideal content is separated from some mental existence. Second, all thinking is thinking of something: all predication is an attempt to qualify reality by means of some content. "We may speak of a judgement of science as an 'inseparable unity of thinking and the object thought': but we must interpret *object thought* as the content of the thinking, or as the *what* of which the actuality of the thinking is the *that*. The 'meaning,' in short, is still adjectival. It is a predicate, which, in the judgement or system of judgements, is 'affirmed of,' or 'referred to,' reality. It is, to use a somewhat crude metaphor, neither on earth nor in heaven, but suspended midway between. Not on earth; for it is freed from the irrelevant psychical setting, which would constitute it an actual thought occurring as a term in the series of modifications of an individual's consciousness. And it is not in heaven;

for it is not substantial, but a ' wandering adjective ' waiting to be joined to the substantial reality " (p. 116). And therefore we cannot pass continuously from ordinary concrete thinking to the ideal of truth, which is a perfectly harmonious and systematic whole. But the reason for this failure is surely obvious. The ideal of truth which Mr. Joachim describes is not truth at all. It is the Absolute. Moreover, Mr. Joachim wrongly describes ordinary concrete thinking. According to his analysis, there are three factors, first the mental fact whereby we think, secondly the object thought, which is content divorced from the mental fact, and thirdly reality, which is further from the mental fact than is the content which is applied to reality. And therefore Mr. Joachim concludes that we can never get away from some form of the correspondence notion of truth, because we can only regard the truth of our thinking as some degree of correspondence between the objects of our thought, which are merely ideal, and a further reality. Now if there is a truth in the view of the nature of thought maintained in the preceding discussion, the correspondence notion of truth, as Mr. Joachim states it, is misleading. It is really a surrender to agnosticism, in that it always points to a reality beyond the object of our thought by which the truth of our thought is to be estimated. Reality is not beyond the objects of my thought to which the objects of my thought, *qua* ideal contents, refer or are added. If my thought is true, then the object of my thought *is* reality; and even if my thought is not true, reality is not separated by a great gulf from my object, but continuous with, although more comprehensive and harmonious than, my object.

The error which is at the bottom of the whole Bradleian epistemology is the illegitimate abstraction whereby Mr. Bradley seizes upon the mental factor in any given whole concrete situation as being itself that whole situation, or at any rate the only existent in that situation; for by this abstraction he is forced to regard the not-self, which is, after all, in some way different and apart from the self, as mere content. This step, further, leads to what is really agnosticism, for it means that reality, to which all content refers, is not merely wider than, but beyond, the object of thought, beyond any system of content that I can reach at all. If thought were consummated, he says, the system of content with which thought works would be extended and differentiated until it was completely harmonious and self-consistent and restored to existence. But restored to what existence? To the existence from which it is divorced, namely, the ex-

istent mental event? Or to some existence which is further from the mental event than is the content? This is a question Mr. Bradley seems to boggle over. He has denied all along that there is any existence over and above psychical existence. And yet in his account of judgment he sometimes writes as though the ideal content employed in judgment referred to an existence not that of the mental fact involved in making a judgment. This certainly seems to be the meaning of the paragraph on pp. 164-165 and of p. 168. And this seems to be the teaching of the *Principles of Logic*. "Judgment proper is an act which refers an ideal content (recognised as such) to a reality beyond the act" (p. 10). When he is thinking of the primitive "whole of feeling" from which self and not-self have arisen, and, moreover, thinking of it as an illustration of the consummation of thought, and, again, when he is thinking of judgment by means of images, which are psychical and which "supply" the content predicated, then he writes as though the existence, to which the content in which thought consists is to be restored, were the psychical existence of the mental fact of the moment. And, indeed, such existence is the only existence that his doctrine of feeling and perception allows. On the other hand, when he asks what we mean by making a judgment, when he tries to analyse the judgment as it stands, apart from this pre-possession, especially in the case where I predicate of an object perceived what is also given in perception, he seems to regard the existence to which the harmonious and all-embracing system of content must be re-joined, in order to attain consummation, as existence further from the mental event than is this content.

If we take the first of these alternatives we get something which baffles one to think out, even in its general nature. I simply cannot think what would happen if any 'thing' that I seized upon, as, for example, the paper I am writing on, were joined to the mental existence of my momentary state. Should I become the paper, or would the paper become I, or what would happen? Much less can I think out what would happen if a perfectly harmonious system of content were restored to that mental existence. But at any rate, I see no reason to regard such a consummation as the ideal of thought. Just as he says that feeling alone is immediate and gives us actuality, so Mr. Bradley seems to think that such a consummation would yield the Absolute. But it is difficult to see how this can be. For Mr. Bradley believes in different personal "psychical centres" and also in the flow of consciousness. The actual, he believes, is confined

to a series of momentary events which arise in such "psychical centres," and these events can never be brought within a system of content, for they are immediate and not relational. "In our reality we have the fact of sensible experience, immediate presentation with its colouring of pleasure and pain. Now I presume there is no question of conjuring this fact away; but how it is to be exhibited as an element in a system of thought-content, is a problem not soluble" (p. 170). Now if he asserts this, how can Mr. Bradley maintain that we get the Absolute when a perfectly harmonious system of content is joined to any such momentary event? The given, he would insist, is not a series of discrete atoms, but neither is it a blank series. It is possible to detect the flow of consciousness occurring in a "psychical centre" as a series of "this-now-mines," or immediate presentations. A perfectly harmonious system of content united to such an actual fact occurring in my "psychical centre" would be different from such a system united to a fleeting moment of your given, and would be different also from a perfectly harmonious system of content united to a different moment of my given. And, therefore, such a consummation is no consummation, and cannot yield the Absolute. This consideration really means the break-down of any attempt to work merely with given momentary actual facts. If you limit the actual to fleeting psychical events, and regard any not-self which goes beyond the present moment as ideal, you can never pass by means of thought to a comprehensive and all-inclusive system of reality. If you "take the indefinite plurality of the 'this-nows,' or immediate experiences, as the basis and starting-point" (p. 305), and regard everything else as mere content, you cannot, by way of thought, attain to the Absolute. The whole notion of the restoration of content to existence is a metaphysical absurdity, but it is even more difficult to understand how the Absolute can result from the union of a perfectly harmonious system of content to a fleeting mental fact.

On the other hand, take the second alternative, and say that a perfectly harmonious system of content is to be restored to an existence further from the mental event of the moment than is this content. This view seems to be more in accordance with common notions about the nature of thought and judgment, for when I judge that this paper is white, for example, I do not intend to predicate an ideal content of the mental fact of the moment, but of something not myself. But again it is difficult to see how we can thus arrive at the Absolute. Because in this case we have left outside the

existent mental fact of the moment. When I think or judge, the primitive "whole of feeling" has broken out into content divorced from existence. But content cannot emerge without a "that" from which it has been divorced, and this "that" is some momentary mental fact. If an all-comprehensive and harmonious system of content were to supervene on my original "whole of feeling," still there would be this mental fact; and if such a system of content is joined to an existence which is not that of the mental fact, then this mental fact (and also, of course, other mental facts occurring in other "psychical centres," as well as other mental facts occurring at other times in the same "psychical centre") is left on our hands. And so, again, there is no passage by means of thought from the actual, from given fact, to the Absolute. Again Mr. Bradley's doctrine that the actual is confined to fleeting psychical events, so that every not-self which goes beyond the moment is ideal, is fatal to his doctrine that the re-union of a perfectly harmonious system of content to existence will yield the Absolute. If the actual is confined to "immediate presentation," to momentary psychical events, there is no passage by way of thought to the Absolute; and if there is a passage by way of thought to the Absolute, the actual is not confined to such events, but every not-self is actual.

Moreover, this second alternative involves a further difficulty. If every object that I seize upon, every content which I make use of in judgment, is a mere "what," which for ever refers to a subject which it *is* not, then, for us who judge, reality is just as much beyond my thought as the Kantian thing-in-itself. There is no thing-in-itself for Mr. Bradley, whose metaphysical criticisms of the ordinary categories of thought have led him to the doctrine of an all-comprehensive and systematic whole, in which everything is included, completed and harmonised, and who puts forth his epistemological theory with this metaphysical doctrine always at the back of his mind. But for my part, if I am limited to what Mr. Bradley's epistemological doctrines allow, then for me the reality to which any content I seize upon refers *is* a thing-in-itself; for this reality is not merely more comprehensive and systematic than any objects I can seize upon, but for ever beyond, and disparate from, such objects.

II.—MIND AND BODY.[1]

By J. S. Mackenzie.

The nature of the relation between Mind and Body is a subject that has concerned philosophers in every age, and that has, indeed, gradually come to be recognised as constituting the central Problem of Philosophy. Within its scope five main problems arise: (1) the exact meaning of Mind; (2) the exact meaning of Body; (3) what is to be understood by speaking of a relation between them; (4) what are the chief difficulties in thinking of this relation; and (5) how are these difficulties to be met.

I cannot hope to deal at all adequately in this paper with all these problems—especially with the first two and with the last. The utmost that I can aim at is to prepare the ground for their more thorough discussion, and to suggest means whereby some of the most obvious difficulties may be removed. I begin, however, with some consideration of the first:—

1. *The Meaning of Mind.*—It is not altogether easy to see what we really mean when we speak of Mind. We seem to know what is meant when anyone says that something is in his Mind; when Charles Lamb jestingly said that he (or that Wordsworth) could have written 'Hamlet' if he 'had a Mind to'; or when it is said that Psychology is the science of Mind. Yet probably something different is meant in each of these instances, and it would be difficult to state each meaning precisely.

Descartes deserves great credit—certainly all the credit that he has received—for his resolute effort to understand what is meant by Mind; and yet it can hardly be denied that the treatment of this problem by him, and by some of his immediate successors, tended in a considerable degree to confuse the issue and to create unnecessary difficulties.

[1] A paper read to the Philosophical Society at University College, Cardiff. In revising it for publication, I have been greatly helped—especially in the first half—by my friend and former pupil, Mrs. Lightfoot Eastwood.

Descartes, as we know, sought to ascertain the nature of Mind by studying conscious states. His view may, I think, be fairly expressed by saying that he regarded Mind as a name for the sum-total of our conscious states considered as belonging to, or being modes of, a certain persistent unity, which he called Self. This view led rapidly, and I believe inevitably, to the doctrine of Hume, according to which no such unity is discoverable. Subsequent reflection, however, and especially the development of scientific analysis, has led to the recognition that Descartes' way of putting the matter was, if not erroneous, at any rate somewhat premature.

The modern psychologist usually hesitates to describe psychology as the science of Mind. He believes that he is trying to give some account of the conscious states and processes that are connected with human, and perhaps with animal, organisms; but he does not consider it to be his business to determine either what the minds are, to which these conscious states are more or less vaguely referred, or what the bodies are, with which they are regarded, in a more or less vague way, as being connected. Hence it is usually, and I think rightly, said that psychology, as pursued in modern times, is the science of conscious states and processes. As far as possible, I believe it ought to confine itself strictly to this, and I am rather sorry to notice that some recent writers on the subject are trying to make it something more. The study of these conscious states and processes, however, constantly leads us to refer, on the one hand, to conditions that are subconscious or unconscious, but that yet in some way seem to enter into and affect the stream of our conscious life, and, on the other hand, to the physical antecedents and concomitants of those conscious states and processes that we are endeavouring to study.

Now, it used to be customary to say that everything that is, in any direct way, involved in our conscious states or processes, is contained *in our Minds*. In this way the Mind was regarded as 'given,' and the problem concerned the manner in which it obtained, contained, or combined ideas. Later thinkers reversed this problem by taking Ideas as given, and seeking to explain—or to explain away—the Mind by them. Descartes, in particular, seemed to think of the mind as a sort of chamber, which might be compared to a picture-gallery—the pictures being what he called Ideas. Most of us have, I suppose, with more or less definiteness, abandoned this way of thinking. For, indeed, if we press the view of Descartes as far as it will go, we come, I think, to the conclusion—not only of Berkeley, that the whole material system

so far as we know it is in our minds; but to that of Leibniz, that everything is in our minds, including even the minds themselves; and consequently that, in a sense, every mind is in every other mind.[1] A result of this kind ought certainly to give us pause.

The only ground, so far as I know, for any such theory, is that we are conscious or aware of certain things; and it is assumed that this may be correctly expressed by saying that these things are in our minds. Now, until we know more definitely what we mean by our minds, we can hardly say whether this is true or false. At the outset, at any rate, it is safer not to say so, unless we can show that we are helped by so doing; and, it seems to me that, on reflection, we are hindered, rather than helped, by such a mode of speaking. To say that the things we apprehend are in our minds tells us nothing more than that we do apprehend them.

Malebranche made a more considerable advance, I believe, than has commonly been recognised, when he said that we apprehend Ideas, not in our Minds, but in God. Nevertheless, it does not help us, at least at the outset, to say with him, that we see them in God.[2] It is surely more simple to say that we apprehend them in the Universe or in Reality, if we must say that they are *in* something. Perhaps some of them, at least, should not be said to be *in* anything. I think we shall find, on reflection, that when we say that the things we apprehend are in God, we use the term God to mean the Universe; and when we say that they are in our Minds, we use this term also to mean the Universe, or we are at least entering upon a line of thought which would soon lead to that—in other words, to Solipsism. Although it may be that the Universe, or the whole of Reality, is rightly called God, or is rightly called Mind, still, we ought not to begin by calling it either until we have considered its nature somewhat carefully. It is certainly confusing to say at the outset that a thing is in our Mind when we only mean that it *is*, and that it has some connexion with those other things that form altogether what we call the Universe or Reality. If I learn, for instance, that the earth revolves round the sun, I become aware of that fact; and when I say that it does so, I mean that it revolves in the Universe or in Reality. If I choose to call the Universe Mind, and to appropriate that Mind to myself, which I may possibly have some ground for doing,

[1] This seems to be a fair summary of one aspect of the theory of Leibniz, though no doubt it is not one that is quite easy to reconcile with some other aspects of it.

[2] See, however, what is said below in the concluding remarks.

then I may say that the earth revolves round the sun in Mind, or in my Mind. I do not, however, add anything thereby to the fact of the earth revolving round the sun, unless I mean by Mind something quite different from the experienced fact. In that case it may possibly be a tenable hypothesis.

Now, when people discuss the relations between Mind and Body, it is clear, I think, that what they are usually referring to is not Mind, in the sense in which it may be equivalent to the Universe, but rather the conscious states of some individual man or animal. Hence, in considering the relation between Mind and Body, it is best to begin by setting aside the term Mind altogether and recognising that we are only considering the relation between what we call Body and certain Conscious States. It is this relation, then, that we have first to consider. After this has been done, we may proceed to inquire whether there is any other sense in which a relation between Mind and Body may be intelligibly affirmed.

2. *The Meaning of Body.*—There is certainly some difficulty when we seek to determine the exact meaning of Body. We usually mean by it those objects that we apprehend in space and time, and that we regard as standing in certain definite relations to other things of a similar kind. After thinking some time about such objects, we are naturally led, moreover, to think of a physical system as a whole of which these various things are parts; and what we call the physical and natural sciences try to determine the exact way in which the various parts of that system are connected with one another. This system is what we commonly call the system of Nature, and the advance of the natural sciences has led us more and more to think of it as forming a self-contained and coherent whole.

But now, there are other objects which some conscious beings apprehend besides this physical system. Some conscious beings are aware of conscious states, as well as of a physical system. They are aware of being pleased, of choosing some things and rejecting others, of forming certain judgments and declining to form certain others; in fact, of a whole series of conscious states and processes, which are not referred, at least in any direct way, to the physical system. They are thought of as occurring in time but not as occupying space. Again, if we think of a circle or a triangle, and try to prove that some property is involved in it, that circle or triangle is an object about which we think, and of which we are aware; but it is not a conscious state, nor yet is it one of the bodies in the physical system. We apprehend it as spatial, but not as something that occurs in

time; and we do not assign to it any definite place in either the spatial or the temporal system. Again, when we think of Number or of Goodness, of Beauty or of Likeness, we are certainly thinking of something, and yet it is of something that we regard neither as a conscious state nor as a body in the physical system. Further, if we have a dream, or if we invent a story, we are thinking of things and events in space and time, which, on reflection, we find that we are unable to place within the physical system. These at least, you may perhaps say, are only in our minds. It may be so, but I doubt whether it is quite a correct statement to make. At any rate I think it will be best to confine ourselves, for the present, to saying that they are things that we apprehend, and that at first appear to have a place in the physical system, but are seen afterwards not to have a place, or at least not to have the place that we at first supposed.

3. *The Relation between Conscious States and Body.*—Now, however wide or narrow an interpretation we give to Body and Nature, it seems clear that there is at least one relation that we may state as existing between Bodies and consciousness. We may certainly say that Bodies are included among the objects of which certain conscious beings are aware. No particular theory with regard to the nature of conscious beings or bodies is needed to enable us to say this. It would be admitted, I suppose, by Plato, by Berkeley, by Hume, by Kant, and by Hobbes. We are certainly aware of chairs and tables whatever their intrinsic nature may be; and we certainly think of them as being in a certain place at a certain time, and as being connected with a number of other things around them. As we have already noted, we are led from the consideration of these to think of a physical system as a whole, within which these various things are parts, and which is sometimes called the system of Nature. When such a system has been thought about, we may certainly say that some conscious beings apprehend it. They apprehend it, moreover, not as something that is *in their minds*, but as something that is in the Universe or Reality. We may therefore say that some conscious beings are aware of bodies and even of a system of bodies; and that this is one way in which some forms of consciousness are related to Body—the way of apprehending it, and judging about it, and referring it to the Universe or Reality. In other words, our conscious states contain, or it may perhaps be better to say that some of them *are*, the apprehension of a great variety of objects, some of which we refer to what we call the physical system; and these we term Bodies, in the wide sense of that word.

4. *Difficulties in Thinking of the Relation between Conscious States and Body.*—And now we are coming near to the point at which a difficulty is raised. The sciences that are concerned with this physical or material system have been gradually finding out a good deal about it. Among other things they have established a certain general principle that appears to hold in it, which is called the Conservation of Energy. This states, as I understand it, that the energy of an isolated system is constant, and that any loss of energy in one limited system corresponds to an equivalent gain in another. Energy can be transformed into most varied forms, but its amount is neither increased nor diminished by any number of such transformations. Wilhelm Ostwald, one of the best writers on the subject, defines energy as 'everything that can be produced from work or which can be transformed into work'. The numerical value of any form of energy is most accurately expressed in terms of the unit of work—the erg, that which communicates unit speed (one centimetre per second) to unit mass (one gramme) in unit time (one second). The formulation of this doctrine has led men of science, as it previously led Descartes and some other philosophers (although they formulated it in a way that modern science has shown to be very untrue), to regard all changes in the physical or material system as capable of being interpreted as transformations of Motion. Indeed, it is hard to see how any exact science with regard to the physical system would be possible at all without some such hypothesis[1]; though opinions may very well differ as to the best form in which it may be stated.

Now, it is here that the chief difficulty arises with regard to what is commonly called the relation between Mind and Body, which is, I think, more accurately called the relation between the physical or material system and the facts of our conscious life. The point is, that when, for instance, we become aware of pain, our awareness of the pain is not a motion in the physical system; and when we choose to go to the right, in a crowded street, instead of going to the left, our choice is not a motion in the physical system; and yet our awareness of pain seems to be causally related to certain antecedent movements; and our choice seems to be causally related to certain consequent movements. The difficulty is that in the physical system it seems possible to interpret causation as transformation of motion; whereas in the cases just referred to it seems necessary to interpret it as a relation

[1] In this sense the principle may be said to be an *a priori* one, though that is an expression which it is probably better to avoid.

between Motion and something that is not Motion. Yet, as the causation is in these cases partly within the physical system, it is difficult to allow that there can be two different modes of causal sequence within it.

5. *How these Difficulties may be met.*—Now, as we know, there are a variety of ways in which it has been sought to meet this difficulty; and most of them are not very satisfying, though some of them are more so than others. We may, for instance, deny that the doctrine of conservation holds universally within the physical system; or we may say that conscious processes go on parallel to physical processes, and that there is no real connexion between them. But the latter view is flagrantly opposed to our ordinary experience, and its weakness has been pretty fully exposed by James Ward; and the former, which has been very plausibly maintained by Poincaré and other recent writers, and is perhaps more tenable, cannot easily be allowed by anyone who has studied the considerations on which the physical law is based.

It seems to me, however, that a comparatively simple way of meeting the difficulty can be stated; and one that may help to throw some light upon the real relation between Mind and Body. It is, first of all, necessary to realise that the point of view from which the doctrine of the Conservation of Energy is formulated, is one that gives us an outlook only over a limited field; not only in the sense that it is confined to the physical system, which is certainly not the only system that we apprehend, but that even that system itself is regarded in a limited way.

The principle of conservation is solely a quantitative principle.[1] It tells us nothing concerning the qualities or directions which we apprehend as belonging to the physical system; and yet we never do apprehend phenomena, belonging to this system, bereft of all these determinations. When the mode of motion involved in Light is transformed into the mode of motion involved in Heat, it may be quite true to say that the amount of Energy, estimated in terms of work, remains unchanged; but it would obviously be very

[1] The statement of William James (*Some Problems of Philosophy*, p. 206) seems to me to be substantially true. "'Energy' is not a principle at all, still less an active one. It is only a collective name for certain amounts of immediate perceptual reality, when such reality is measured in definite ways that allow its changes to be written so as to get constant sums. It is not an ontological theory at all, but a magnificent economic schematic device for keeping account of the functional variations of the surface phenomena." It is important to recognise, however, that the physical system does 'allow its changes to be written so as to get constant sums'.

untrue to say that no change at all has taken place. Light is not the same thing as Heat. I am not here raising the question whether what we call colour and what we call warmth can properly be ascribed to the physical system at all. That may or may not be the case. Apart from that, however, it is at least true that the form of motion is in the two cases different; and a change of form is surely a change quite as truly as a change of amount. From a quantitative point of view, a motion to the right may be regarded as the same as a motion to the left; but the one is formally different from the other. This point has been urged with great lucidity by the German writer Goldscheid, in his paper on the Conception of Direction; but it also seems to be pretty definitely recognised by Sir Oliver Lodge and by other prominent physicists. In like manner, a vibratory motion may be equal in amount to a motion in a circle or in a straight line; but it differs from each of them in form. The pointsman on a railway line does not add to the activity of the trains, nor (apart from some loss by friction) does he take anything from it, but he may make a great difference in the direction of the motion.

Now, I believe that I am right in saying that science knows very little about the conditions under which formal transformations take place. Certainly the law of the Conservation of Energy does not explain them. Yet any real interpretation of causal relations would have to explain them. No one really understands, for instance, how Life is produced; and I believe that we are equally in the dark [1] as to the origin of electricity, or heat, or light, or any other form of energy with which science deals. All that the general mechanical theory tells us is that, in the various transformations of these, the actual amount of energy, as estimated in a certain way, remains unchanged. We know also that there are certain regular ways in which such qualitative changes take place; but this knowledge does not *explain* the changes, nor does it reduce the qualitative change to a quantitative one.

This principle seems, indeed, to be demonstrated in the organic as well as in the inorganic world. The researches of Rubner and Atwater have apparently shown that, within the limits of error, the sum of the energy which enters the adult organism is identical with the sum of the energy which leaves it. It seems probable that the principle may also be shown to hold in the case of a developing organism, al-

[1] Though of course much more is known with respect to the conditions of its generation.

though its experimental proof might present greater practical difficulty.

Now, it does not seem to be necessary to assume that the *amount* of energy in the physical system is in any way interfered with by the presence of conscious processes. It is enough if we may suppose that its *form* is in some way affected. The amount of energy expended may be the same whether I move to the right or to the left; but the movements are not the same, and their difference may be of considerable importance to me.

Now, is there any real ground for denying that a change of this kind may be brought about by choice? The only ground appears to be that choice is not a fact within the physical system. But it seems to be quite possible that *all* the formal differences within the physical system may have to be accounted for by facts which are not within that system. Apart from those who follow the older theory of psycho-physical parallelism, Huxley was the writer who, in recent times, most definitely maintained that choice must not be regarded as affecting the physical system. He regarded the facts of consciousness as epiphenomena, that is, as something over and above what is contained in the material system, and as not affecting that system.

They really do seem to be epiphenomena in the former sense; but is there any adequate reason for believing that they are so in the latter sense? There certainly seems to be no room for the facts of consciousness within the physical system, as mechanically conceived, that is to say, as conceived as a system of Motions. But there are many things for which there is no room in that system. There is no room for warmth in it, none for colour, none for beauty, none for goodness, none for purpose.[1] Yet surely all these things must have some reality, more especially as they are not simply *facts of consciousness*, but are also objects apprehended by consciousness.

Now I believe that there is no ground for thinking that the presence of these things has no effect upon the physical system. If I see that something is good, there is no reason why I should not choose to bring it about. If I do choose

[1] Some would add 'none for life'. See, for instance, Driesch's 'Gifford Lectures'. It is not clear to me, however, that the movements involved in vital processes, apart from consciousness, present, in principle (apart from their complexity), any greater difficulty than other movements, unless, indeed, it be true that all life implies something of the nature of choice; and this is a point that I do not at present wish to urge. It raises the whole question of the place of purpose in the Universe.

to bring it about there is nothing to prevent me from looking round for suitable means to reach it; and when I find such means as are capable of being realised by a movement of my bodily organism, my choice appears to lead to such a movement. This does not mean that any fresh energy is created; but it does mean that a certain kind of motion takes place, rather than another kind, and that it takes place *as a result of my act of choice.*

I believe that there is no more difficulty in understanding this than there is in understanding any other formal transformation within the physical system. It seems to me, therefore, that there is no fundamental difficulty in recognising a real relation between body and conscious states. In this, as in other cases, all that we can ultimately say is that the Universe is such that changes of this kind do take place in a certain regular way.[1]

6. *The Relation between Mind and Body.*—But now we have to ask—Is the recognition of this the same thing as the recognition of a real relation between Mind and Body? I believe it is not quite the same thing. When we speak of Mind, we do not simply mean the fact of awareness. We mean rather something to which we refer that fact. To be aware is a sort of *act.* We express it by a verb; and we have at least a natural tendency (which may be misleading, but can hardly be ignored) to refer adjectives and verbs to substantives. We mean by Mind, I think, something that is capable of being aware, and that, in some sense or other, persists throughout a series of facts of awareness. We mean, in fact, the man himself, and not anything that he can, properly speaking, be said to have. If I am aware of pain, for instance (*i.e.*, the organic sensation of pain[2]), the pain appears to be one thing—a definite quality of experienced object; my awareness of it is another thing; and I, who have that awareness, would seem to be a third. Of course I do not mean to imply that these things are *separable.* I only say that they appear to be *distinguishable.* What, then, is this 'I,' this subject or Mind?

Now, at this point, there are some, as we all know, who would be inclined to say that, since Mind is not simply one

[1] That we cannot help thinking of them as taking place in a regular way, or, as he says, 'according to a rule,' seems to be the gist of Kant's answer to Hume.

[2] It may be doubted whether the same can properly be said of pain in the sense of simple disagreeableness or disliking. Most psychologists do not distinguish these two senses with sufficient clearness. Professors Külpe and Titchener are among the most satisfactory in this respect.

of the two related objects of which we have been speaking, it must be the other. Since it is not simply states of awareness, it must be regarded as some form of Body. The usual way of putting it in modern times is, of course, to say that it is the *brain* that thinks and is conscious. In ancient times there were other ways of putting it. Empedocles considered that it is the *blood* that thinks. Others have held that it is the *heart*. We smile a little at such opinions now; and it is possible that, by and by, we may smile at the view that consciousness is to be referred simply to the brain. At any rate, I am inclined to think that our brains are things—very important things—that we have and use, but are not ourselves. Yet what I am anxious at present to urge, is that this materialistic view is not lightly to be set aside. Much of our modern 'idealism' is much too facile; and it is well that we should consider carefully what is to be said on the other side.

It is easy to see that states of consciousness are not the same thing as states of brain; just as colour is not the same thing as vibrations of ether. This is admitted by most writers in modern times—even by those who, like Huxley, lean most strongly to materialism. It would not have been admitted, I suppose, by Democritus or by Hobbes. To admit this, however, does not carry us very far. It does not follow from such an admission, that the brain, or the organism as a whole, may not be the substantive to which states of consciousness are to be referred. If so, the relation between mind and body would really be a relation between body and body. What we should have to say, in that case, is that, when certain bodies stand in certain relations to each other, consciousness arises. Consciousness would still be something different from body, but it might be held that it is the awareness which one body has of another; and it might even be held, as some do hold, that every body is, in some sense, aware of the other bodies that surround it.[1] It would still be true that there are other things than matter. Hence Huxley, for instance, rightly enough denied that he was a pure materialist. Awareness would still be one of the things that have to be distinguished from matter. Colour would, I suppose, be another. Goodness and beauty would perhaps be others. But Mind would not be one of them.

Now, I stated at the outset that I did not hope, in this paper, to determine what mind is; but it would certainly be

[1] Prof. Alexander, for instance, appears to hold this. But it is not very obvious what is to be understood by cognition or awareness in this sense, or what ground there can be for ascribing it to inorganic material objects or to plants.

very unsatisfactory to break off at this point without some sort of indication of the direction in which an answer is to be sought. We may do this by inquiring what is implied in the supposition that has just been referred to. If we say that mind is body, we must at least ascribe to body powers that are not recognised in it when it is treated in a purely mechanical way. We must mean by body not merely something that can move in space, but something that can generate warmth and colour and pleasure and pain, and the apprehension of number and likeness and goodness and beauty; and we shall find it difficult to deny that the apprehension of these has some influence on the motion of bodies in space. To ascribe such potentialities to body would be, in effect, to spiritualise matter, rather than to materialise spirit. It would not make much difference to our general view of the universe, whether we say that everything is matter or that everything is spirit, if we mean simply that reality (by whatever name we call it) is such as to contain the possibilities of choice and of apprehending what is true, beautiful, and good. It does, however, no doubt make some difference what place we assign to such conceptions in the ultimate determination of reality. It makes some difference whether we think of conscious choice as only a casual incident in a whole that may in the main be described as a system of matter in motion; or rather think of matter and motion as partial aspects of a whole which must be otherwise characterised. But the consideration of that question lies beyond our present scope. What I am at present urging is that it is wrong to identify mind simply with states of our conscious life. We ought to think of it rather as that to which these conscious states may be referred.

In asking whether we can say anything more positive about mind, it must be remembered that all that we are able in general to say about anything is to describe the way in which it acts; and we may even be wrong in supposing that there is anything more to be said. Physicists in general postulate the existence of an ethereal medium through which the vibrations that give rise to the experience of light are conveyed. What is that ethereal medium? The answer would seem to be that it is something existing in the spatial and temporal system capable of vibrating in a particular way, and perhaps also capable of retarding the motion of the earth, and of acting in various other ways. It was, I believe, the late Lord Salisbury who said that it is merely a substantive for the verb 'to vibrate'; but it appears to be rather more than that.

Now, what did Charles Lamb mean when he said that he could have written 'Hamlet' if he had a mind to. He meant if he had the mind which, as a matter of fact, belonged to or was the person we call Shakespeare. Now, what was Shakespeare? Following the same method of description as that used for the ethereal medium, we may say that he was a being existing at a particular time and place (contemporaneous with, but distinguishable from, the other person called Bacon), capable of writing 'Hamlet,' and also of writing 'Othello' and several other works, and of doing various other things of which we have more or less definitely heard. The states of consciousness involved in doing all this were very various and very evanescent. The brain was also evanescent. The writings, so far, remain. What about himself? To answer this question at all thoroughly would carry us very deep into the nature of reality. I can only indicate very briefly and roughly what I believe to be the general nature of the answer that we have to give.

Reality is a whole, containing space, time, motion, and any other characteristics that we refer to the physical system; but containing also choice, purpose, and any other characteristics that we refer to conscious life. In this sense, I think we must say that we can only think of the whole—if we are right in regarding it as a whole at all—as a spiritual unity, of which all existing things are parts. All of these parts, however, have qualitative, as well as quantitative, aspects; and to these qualitative aspects the relation of whole and part is not applicable. Human beings, in particular, who, from the purely quantitative point of view, may certainly be described as parts of the whole, have also qualitative characteristics of their own, which show themselves in the special features of their conscious experience. These qualitative aspects are emphatically their own; and it is chiefly on account of these that we are forced to recognise that reality is a many as well as a one. It is here, I believe, that such a system as that of Spinoza is in error, and that one like that of Malebranche is nearer the truth. Spinoza treated the purely quantitative or extensive aspect of reality as being essentially identical with the qualitative or thought aspect. This was, of course, the foundation of the doctrine of psychophysical parallelism. Malebranche, on the other hand, held that, though the bodies that we apprehend are rightly regarded as parts of a systematic whole, which is spatial, the consciousnesses that apprehend these bodies are not rightly regarded as parts of a similar whole. Though this view, as stated by Malebranche,

needs some correction, it appears, on this particular point,[1] to be nearer the truth than the view of Spinoza.

But of course the question still remains—Are we right in saying that this conscious individuality is simply to be referred to a particular organism, existing at a certain place and time? Or are we entitled to ascribe a more persistent form of being to it? It seems clear, at any rate, that, as we know it, it is very closely connected with a particular organism. Our conscious life is undoubtedly bound up very intimately with the condition of the brain and nervous system, and indeed also with the condition of the blood and digestion. Could any one, for instance, understand Carlyle without taking account of his dyspepsia? But it seems equally clear that our conscious life is also bound up with a good many other things. Could anyone be properly understood without considering the books that he has read, the traditions in which he has been brought up, the language he speaks, the form of social life of which he is a part, the station, with its duties, to which he recognises himself as belonging? That Carlyle was born in Scotland, and associated with the traditions of English Puritanism, are facts even more important for the understanding of him than his dyspepsia. Are any of these the man himself? Or should we rather describe them as the conditions in which he lives and the instruments that he uses? If we say that *some* of them are properly conditions and instruments, it is not very obvious that any of them can be singled out as being more than that.

The question, of course, that naturally strikes us as being of chief practical importance in this connexion, is that with regard to the persistence of the individual life. The physical organism, though having a certain persistence, in contrast with the fleeting states of our conscious life, has also pretty obvious limitations. It has, as Heraclitus puts it, its 'way up' and its 'way down'. It is born at a particular time and place; it grows up under certain conditions; it decays and is eventually dissolved. Are we to say that the mind or self (however otherwise distinguishable) has the same time-limits as the bodily organism with which it is connected? Or is it possible to regard it as having a more persistent mode of being? Now there are two ways, I think, in which this problem might be approached—perhaps even three.

The first is the purely empirical way. We might study the persistence of mental facts, as we study the facts about light. We find that most of the light that we experience is

[1] I need hardly add that I am not urging the superiority of any other aspects of his philosophy.

to be referred, more or less directly, to the sun. That is, in a sense, the substantive to which its activity can be traced. Yet we know also that light is not confined to the sun, but can move with immense rapidity throughout space, and be reflected from one body to another. We might be able to find out similar facts about mind; and of course, to a certain extent, we can. Thoughts and feelings can be transferred from one conscious being to another. In that sense, at least, some spiritual things can persist beyond the limits of the individual organism. And it is certainly conceivable that facts might come to light which would lead us, in a still more definite way, to ascribe the facts of our conscious life to something more persistent than the bodily organism. This is what some are seeking to establish by means of 'psychical research'; and it is certainly quite conceivable that this empirical method might throw light on consciousness as it has done on other modes of action. The brilliant work that has been done by Myers and others in this direction may be held to justify the conviction that we are on the eve of great discoveries. It must, at any rate, be recognised, I think, that this is a legitimate method of inquiry; though it seems to be true that the facts brought to light by psychical research, so far, are, for the most part, rather of psychological than of metaphysical interest; and that, even when they appear to have metaphysical interest, they do not throw any definite light on this particular point. Some of them may lead to the view that our ordinary conceptions of space and time need reconsideration; and that action at a distance is more possible than has been commonly supposed. But the actual persistence of individual personality beyond the life of the organism does not appear, as yet, to have been established in this way.

Another method that might be adopted is that of mystical intuition. One of the most striking illustrations of this in recent times is to be found in the doctrine of Count Keyserling,[1] who maintains that we may apprehend the reality of Self in a way wholly different from that in which we apprehend the reality of phenomenal objects; and that in this apprehension of it its essential nature, as an entity that eternally persists, is revealed. But I doubt whether this really means more than that we apprehend it as feeling, choosing, and judging—*i.e.*, as acting in ways that are different from those that we seem to be entitled to ascribe to material objects.

[1] Especially in his *Prolegomena zur Naturphilosophie*. His view seems to be based largely on those of Schopenhauer and Bergson.

If these two ways—the purely empirical and the mystical—fail us, we are left to try a method that is definitely metaphysical. This is a long and difficult method, and one that is sometimes not a little disheartening; but I believe it is in the end the one that is most hopeful. I can only very briefly indicate here what I understand the nature of this method to be. It does not consist—as some are apt to imagine—in giving such an account of the nature of knowledge as to show that nothing can be real but that which knows or is known. It is not in that sense, epistemological. It consists rather in trying to ascertain the place that is occupied in the structure of the world as we know it by such realities as choice, purpose, goodness, and similar conceptions.[1] There is no reason for doubting that these are quite as deserving of careful study as motion, number, space, or as colour, sound, and heat. If there are grounds for thinking that such conceptions as that of purpose have an essential place in the general interpretation of the universe, that might be expected to throw some light upon the problem to which we are now referring.

7. *Concluding Remarks.*—It is here, I think, that our modern Realists are unsatisfactory; and I may conclude this paper with a general reference to their position, which I have had very largely in my mind in all that has gone before. Mr. Moore and Mr. Russell[2] have certainly stated a realistic doctrine with great clearness—a doctrine that has a good deal in common with the older Realism of Plato; and with a great deal of what they say I find myself in very hearty agreement. I think it is a mistake, however, to suppose—as they seem to do—that what they have put forward is a refutation of Idealism, in the sense in which that term is understood by its best supporters. What they have done is, I think, primarily, to refute materialism (if, indeed, that needed any refutation). They have shown, that is to say, that the whole of reality, as we apprehend it, cannot be regarded as being included in the material or physical system.

[1] The attempt that has frequently been made—even since the time of Kant—to prove the permanence of self on the ground of the persistence of substance, appears to me to be quite futile. But I cannot discuss it here.

[2] Mr. Prichard should also be referred to here. His book on *Kant's Theory of Knowledge* seems to me to contain one of the best statements of the foundations of modern Realism. Most of his criticisms on Kant appear to be sound, but it is difficult to see how he can maintain that *all* Idealism must be subjective. *Most* of what is called Idealism certainly is; but can either Plato or Hegel be charged with that heresy? Those who say that all reality is experience are probably guilty of it; but are those who maintain that all reality is intelligible equally guilty?

They have also helped to refute subjective Idealism, perhaps more thoroughly than was done by Kant. They have, that is to say, refuted the view according to which the reality of the physical system and of other things consists simply in our awareness of them. By doing this, they have helped also to deliver us from Scepticism, Agnosticism, Philosophic Doubt, Pragmatism, and other forms of pure Subjectivism. But Subjectivism in all its forms is rejected also by all the best idealists from Parmenides and Plato to Spinoza and Hegel. I reckon these as idealists, because they held that what is intelligible is real; though their conception of what is intelligible was no doubt in many cases inadequate. Indeed even Berkeley rejected pure Subjectivism much more explicitly than is commonly supposed. The '*esse* is *percipi*,' which is so often quoted, gives a very superficial impression of his real doctrine, especially as represented by his later writings.[1]

Apart from the refutation of these two doctrines—Materialism and Subjectivism—the positive results of the teaching of our modern Realists, so far, do not seem to me to carry us any great length. They have not done much to determine—as both Plato and Hegel tried to do—the place that is occupied in reality by purpose, goodness, conscious choice; and, in general, by those conceptions that play an important part in human life, as distinguished from those that are used in the determination of the physical system. It is on some such determination that the possibility of a true Idealism rests. A true Idealism, it must always be

[1] The mature views of Berkeley should be gathered from his *Dialogues* rather than from his *Principles of Human Knowledge*. The following passage from the third Dialogue is especially worth noticing: 'I do not deny the existence of material substance, merely because I have no notion of it, but because the notion of it is inconsistent; or, in other words, because it is repugnant that there should be a notion of it. Many things, for aught I know, may exist, whereof neither I nor any other man hath or can have any idea or notion whatsoever. But then those things must be possible, that is, nothing inconsistent must be included in their definition. . . . We may not believe that any particular thing exists, without some reason for such belief: but I have no reason for believing the existence of Matter. . . . In the very notion or definition of *material Substance*, there is included a manifest repugnance and inconsistency.' Here it is evident that he rests his 'Idealism'—or rather his Immaterialism—not on the doctrine that '*esse* is *percipi*' or that 'reality is experience,' but rather on the doctrine that we cannot maintain anything to be real which is not consistent, intelligible, or rational. It is true, however, that this view is not worked out by Berkeley with any thoroughness. It is not altogether unfair, in consequence, to take him as a representative—in contrast with Plato or Hegel—of the more purely subjective type of Idealism.

remembered, is a form of Realism[1]; but it is a Realism that tries to think of reality as a whole, and that contends that a real whole can only be a spiritual whole. It does not reduce Reality to modes of consciousness or of experience.

It only seeks to show that the Universe has to be interpreted as being essentially of the nature of a system that contains purpose and choice, and not as a system that is essentially determined by the more purely material conceptions. If such a view can be established, the Universe as a whole may perhaps rightly be called Mind or God—*i.e.*, a being that has to be thought of as containing conscious purpose, and something of the nature of rational choice,[2] and not merely one that is to be interpreted in terms of Space and Motion; and we may in the end be able to agree with Malebranche, that we see all things in God (though I think we should have to add, like Malebranche, that our conscious life as such cannot properly be said to be in God, or perhaps *in* anything). But it is obvious that anything of this sort would have to come at the end, not at the beginning, of a philosophical construction; and the things that I have been chiefly trying to discuss in this paper are, if not at the beginning, at any rate pretty far removed from the end.

[1] Not of course in that restricted sense in which Realism is defined by Professor Royce in *The World and the Individual*. But that is not the sense in which the term is used by our newer Realists, who include in their conception of reality both the first and the third of the four senses that are distinguished by Royce. It should be remembered that, in the special sense in which Realism is understood by Royce, Berkeley was a Realist. But it is probably better to call those who hold this view Pluralists.

[2] The nature of Choice stands greatly in need of further consideration than it has yet received. But any attempt to discuss it here would carry us too far.

III.—ARISTOPHANES AND SOCRATES.

By R. Petrie.

Prof. Taylor's volume of essays, entitled *Varia Socratica*, has recalled attention to the importance of Aristophanes' *Clouds* for the purpose of forming a true estimate of the life and teaching of the historic Socrates. Many who have been accustomed to accept without question the familiar distinction between a 'historic' and a 'dramatic' Socrates have probably felt in secret that the caricature in the *Clouds* did not exactly agree with their conception of the historic personage. They will therefore have welcomed this opportunity of seeing the case against them, as based on Aristophanes, put at its very worst by the skilful advocacy of Prof. Taylor. It may be that some like the present writer have risen from a study of the chapter on "The Phrontisterion" with a sense of relief, glad that now they know the worst and that it is so much better than they had feared. Others may find the chapter quite convincing and be prepared to admit Prof. Taylor's claims. But it is at all events of the utmost importance in the consideration of his main thesis to weigh very exactly the value of his conclusion in this regard. For here surely, if anywhere, he will carry conviction. It is impossible within the limits of a single article to criticise all his arguments. But one may hold it probable that a large number of his readers will be very dissatisfied with his treatment of the evidence of Xenophon. Entire rejection in a footnote (p. 194) seems a little hard, unless further notice is reserved for the second series of *Varia Socratica*. The very variety of the probable or possible reasons why Xenophon should be disbelieved is suspicious. In particular if the relations of Socrates with the Pythagoreans were so notorious as Prof. Taylor argues in regard to the *Clouds*' caricature, if it be true that "Socrates and his doings were perfectly familiar to the general public of Athens years before the production of the *Clouds*" (p. 132), or again that "the φροντιστήριον and its inhabitants are perfectly familiar to the dullest Athenian peasant" (p. 146); if all this be true, how in the name of common sense could

Xenophon have hoped to protect his master's memory by "preserving silence about all that connected him with a mysterious and suspected sect" (p. 194 note)? Or how, to take an alternative reason, could he be supposed to be ignorant of what the dullest peasant had known? Surely the tradition would not so easily have died in so short a time. "Ah!" replies Prof. Taylor, "we must take the general superficiality of Xenophon's character into account" (p. 194). Well, however superficial, he was at least able to understand and record that Socrates was not ignorant of physics and mathematics—facts which Prof. Taylor is glad to quote in their proper place. Why then should he not equally well have recorded that Socrates believed in and taught a theory of ideas? It would not be surprising if many people found the entire absence of any reference to the εἴδη in Xenophon's Socratic books very startling indeed. This, however, is only a digression directed to show that Prof. Taylor can hardly presume to base his thesis on his treatment of the evidence of Xenophon. Nor again, one may conjecture, will his attempt to connect Aristotle's remarks in the Metaphysics with the εἰδῶν φίλοι of the Sophist be very generally accepted—but that is too long a story even for a digression. His valuable collection of passages illustrating the use of εἶδος in writings pre-Platonic and contemporary with the dialogues, however great its merits, will hardly establish by itself that Socrates taught a theory of ideas. It is surely not impossible that he should have taken little interest in the theory, even if well acquainted with it. Or again even if it be proved that the theory of ideas is Pythagorean in origin and that Socrates shared some Pythagorean religious beliefs, it does not follow that he also shared their philosophic doctrines. These assumptions, moreover, are perhaps too generously allowed. For it will not, I imagine, be universally admitted that Prof. Taylor is successful in his attempt to show that "εἶδος and ἰδέα, wherever they appear as technical terms, alike in rhetoric, in medicine and in metaphysics, have acquired their technical character under Pythagorean influences". His own evidence does not justify the statement that the fundamental meaning of εἶδος is 'figure' or 'body' in geometry.

These are but brief hints of the answers that might be made to Prof. Taylor's evidence so far as it is not drawn from Aristophanes. However inadequate, they may perhaps suggest that a great deal depends upon his success in his treatment of the *Clouds* and he himself seems conscious of this fact. Indeed we are explicitly told that "there is not,

and so far as we know there never was, any really faithful historical account of the personality of Socrates except the Academic tradition which goes back to Plato . . . and the brilliant caricature which Aristophanes reasonably thought his own comic masterpiece" (p. x). Let us turn, therefore, to a consideration of the points supposed to be established from the *Clouds*. Prof. Taylor is kind enough to recapitulate the main results for us and he may therefore be allowed to speak for himself. There are six main points (pp. 174-5):—

(1) Socrates stood from the first in very close relation with the last of his predecessors the φυσικοί.

(2) He possessed mathematical attainments of an advanced kind.

(3) He formed the centre, or at least a central figure, in a group of permanently connected intimates. . . . The peculiarity of the group, which had a common table, was that it was composed of men who were at once students of mathematics and physics, and devotees of a private religion of an ascetic type.

(4) The Socratic ideal in education was to arrive at an art of statesmanship, only attainable by the study of dialectic.

(5) Socrates has no ready-made knowledge to impart.

(6) Self-knowledge is, with him, the most important knowledge of all.

Now of these six points (5) and (6) are true on any theory of Socrates and are not specially relevant to the thesis of Prof. Taylor. One can only wonder in passing how he reconciles (5) with Books VI. and VII. of the *Republic*, if he identifies the 'dramatic' with the 'historic' Socrates. But that is merely by the way. (3) overlaps to a certain extent with (1) and (2), and in so far as it does not do so, it is irrelevant to the question at issue. For although it may be proved that Socrates shared certain religious beliefs with the Pythagoreans (and all that Prof. Taylor says is that the group is an "Orphic-Pythagorean Community of some kind"), yet it by no means follows that he also shared the Pythagorean philosophic and scientific speculations. We are, therefore, reduced to (1), (2), and (4). It may reasonably be hoped that many people will confirm Prof. Taylor's fear that (4) will be 'scouted as fanciful'. Surely his reasoning here comes remarkably near to "special pleading". He states first of all that "the end to be achieved by a course in the φροντιστήριον, as we are expressly told by the *Clouds* themselves, is efficiency as a director of public affairs" (p. 170). (He does not apparently realise that this admission very seriously affects his treatment of the "Reflectory" as a

whole. But that point must be reserved for the present.) Taking his stand upon this, Prof. Taylor points out that in Xenophon, too, Socrates is represented as interested in the 'art of statesmanship'. (Poor Xenophon has hit the truth here by some divine mischance!) Again, the Platonic Socrates, it is recalled, always insists on the importance of self-knowledge, just as the Aristophanic. And the preliminary steps of the education in the *Clouds* are enumerated as "the study of musical rhythms and grammar, and practice in the discovery of 'conceits,' which apparently involves practice in logical classification," this last being based merely on the sentence *περιφρόνει τὰ πράγματα, ὀρθῶς διαιρῶν καὶ σκοπῶν.* Having adduced this evidence, Prof. Taylor proceeds, "the whole conception of what goes on in the *φροντιστήριον* thus strikes one as full of shafts aimed at an educational principle identical with that of *Republic* VI.-VII." Now, why this '*thus*'? There is not a single statement in the preceding paragraph which would in the least degree suggest a reference to the education in science and dialectic as discussed in the *Republic* VI.-VII. The importance of self-knowledge is not expressly mentioned in these books, nor is the study of musical rhythms and grammar. The whole case, therefore, seems to rest on the presence of the words *διαιρῶν καὶ σκοπῶν.* Full of shafts indeed! The only resemblance is that in both cases men are being trained to take part in public affairs, but one cannot pass from an identity of ends to an identity of means. Prof. Taylor hardly seems to be clear in this passage whether he intends to argue for a resemblance between the Socrates of Xenophon and Aristophanes, or of Aristophanes and Plato. His note on p. 171 suggests a curiously roundabout contention. Socrates in the *Memorabilia* says that dialectic makes men 'fitter to command'. The aim of the *Clouds*, also, is to teach the art of statesmanship. Therefore Socrates there probably made use of dialectic, as is suggested by the word *διαιρῶν.* And the result of this inference from Xenophon to the *Clouds* is that one may still further infer that the *Clouds* gives us a burlesque of Books VI. and VII. of the *Republic!* I have attempted to supply the gaps in the argument in the only way that seems possible if the note is relevant. But I hesitate to accuse Prof. Taylor of using this argument, because it involves an identification of the 'dialectic' of the *Memorabilia* with the 'dialectic' of *Republic* VI. such as one shudders to imagine. But in any case, will Prof. Taylor explain the justification of '*thus*' in the sentence quoted above? At present the argument would seem to belong to the class entitled "non sequitur"—or, to use the

more violent language suggested as appropriate by the author himself, it must be ' scouted as fanciful '.

Of the points previously enumerated, therefore, only (1) and (2) are left as possessing at once a claim to truth, and an importance for the establishment of Prof. Taylor's peculiar views as to the teaching of Socrates. Those two points are concerned with mathematics and ' physics,' and the suggestion is apparently that Socrates was interested in mathematical and " physical " problems. Before we proceed to a more detailed examination of these points, there is need of a careful statement of the difference between Prof. Taylor's theory and that more commonly accepted. It is one thing to say that Socrates in early life studied, and was attracted by the problems arising from the mathematical and physical science of his day, that as a *learner* he was interested in such speculations. It is quite another thing to say that he retained that interest to the end of his life, and as a *teacher* was primarily concerned with such subjects. Which of these positions does Prof. Taylor mean to advocate? He writes throughout as if it were the second, but an attempt will be made to show that his evidence only establishes the first. It is, indeed, hard to see how the second position can possibly be consistent with his main thesis. For if that thesis be true, it will surely follow that the biography of the *Phaedo* gives us an accurate description of Socrates' mental development. But it is plainly stated in that biography that after a certain period Socrates abandoned the methods of the physicists, and subsequently the theories of Anaxagoras, too, in favour of some other method, the nature of which is not relevant here. He came to the conclusion, he says, that in regard to such studies he was " *ἀφυής ὡς οὐδὲν χρῆμα* " (96 c). So far from gaining any new light, he has lost the knowledge which he previously thought he had. If then the dialogues of Plato give us a " really faithful historical account of the personality of Socrates," it follows that Socrates at a certain comparatively early period in his philosophic career lost his interest in scientific or physical speculations. The passage in the *Phaedo* does not mention mathematical studies at all (may one use the argument from silence against Prof. Taylor?). But it does mention what we should call biology, psychology, astronomy, and geology. It may be admitted that this is a mere *argumentum ad hominem*, but it is surely a very serious one. It is hard to see how in face of it Prof. Taylor can do other than admit that Socrates' interest in physical speculations was confined to one particular period of his life, and that an early period. Moreover, no more

than that can be established from the *Clouds*. It would be quite sufficient basis for Aristophanes' caricature if Socrates had for some time studied the physical sciences. There is no need to suppose that they remained one of the chief interests of his life. And, indeed, in the first place, Prof. Taylor draws only this conclusion, that "Aristophanes and Plato seem to be in complete agreement about the interest taken by Socrates, *at some time in his life*,[1] in physical questions". But when he restates the conclusion in the summary at the end of the chapter he drops the temporal qualification, and we read only that "Socrates stood from the first in very close relation with the last of his predecessors the *φυσικοί*". It may be that Prof. Taylor even there only means that Socrates stood in this close relation in his younger days.[2] If so, the preceding argument is superfluous. But it is worth while running the risk in order to make it quite clear that Socrates' interest in "physics" was only temporary. For if this is all that is supposed to be proved from the consideration of the *Clouds*, it is, of course, by no means inconsistent with that generally received view as to the scope of the Socratic teaching, with which Prof. Taylor seems to quarrel. Even Xenophon, as Prof. Taylor points out (p. 157), records that Socrates had learned his mathematics and astronomy, and studied his Anaxagoras. It was precisely because he had studied physics that he had found out how barren and profitless a study it was, as then pursued, and determined to turn from it to other sciences where the results were at once more certain and more useful, to wit, the science of man and the *πόλις* (*Memorabilia*, I., i., 10-16). Aristotle's testimony in *Metaphysics*, 987 B, 1-4, "*Σωκράτους δὲ περὶ μὲν τὰ ἠθικὰ πραγματευομένου, περὶ δὲ τῆς ὅλης φύσεως οὐδέν*," is quite consistent, if we suppose Aristotle to be thinking only of the characteristic occupation of later years. But it shows that ethical investigations were much more important in Socrates' teaching than physical speculations. This is confirmed again by the *Apology*, where Socrates indignantly disclaims all interest in *τά τε ὑπὸ γῆς καὶ οὐράνια*, with a special reference to the accusations in the *Clouds* (19 B-D), and protests against the confusion made between himself and Anaxagoras (26 D-E). According to Prof. Taylor's canon of interpretation, the evidence of the *Apology* ought to be treated as a "faithful account of the personality of Socrates". He does not indeed pass it over in silence, but his answer is very

[1] Italics mine.

[2] This would seem to be suggested by the passage on p. 159 about the autobiography of the *Phaedo*.

unconvincing. He admits for the occasion that "Socrates at one period of his life had taken a much greater interest in cosmology than he did in his later days" (p. 139). So far, so good. It only remains that Prof. Taylor should accept the evidence as showing that Socrates in his later days took no interest at all in cosmology. Then he will have arrived at the position from which he might have started had he cared to trust Xenophon. But he mars the admission just quoted by the unwarranted suggestion that the evidence of 'common fame,' to which Socrates appeals in the *Apology*, proves nothing as to the ideas which were ventilated *inside* the φροντιστήριον, and therefore Socrates may have to the end regaled his more intimate friends with speculations in mathematical and physical science (p. 158 n. 1, and p. 159). Are we to suppose then that 'common fame' knew nothing as to what happened inside the φροντιστήριον? If so, what becomes of Prof. Taylor's arguments as to the absurdity of thinking that Aristophanes' caricature misrepresented the notorious Socrates? What are we to make of the statement that "the φροντιστήριον and its inhabitants are perfectly familiar to the dullest Athenian peasant"? It may be unintelligent to be unable to reconcile these two positions. Perhaps Prof. Taylor will explain. Meantime he seems to be endeavouring to juggle with the facts.

We may, however, give him the benefit of the doubt on all the points at issue, and place the most favourable interpretation on his views. It will follow that he has proved from the *Clouds* that Socrates was at one time of his life interested in physical speculations, about things in the heavens and on the earth beneath—in biology and psychology. But there is nothing to show how long he retained that interest. There is nothing to contradict the clear evidence of Xenophon and Aristotle, and equally of the *Phaedo* and *Apology*, if they be accepted as giving faithful portraits, that Socrates turned from physics to other branches of knowledge. What these other branches of knowledge were may be disputed. Xenophon and Aristotle agree that they were Ethics and Politics, if the two may be classed together. Plato's dialogues cannot be accepted in evidence until it has been independently proved that they are describing the historic Socrates. They are only quoted against Prof. Taylor as furnishing "*argumenta ad hominem*". But in any case it is proved apparently that the first point in the summary of the conclusion at the end of the 'Phrontisterion' chapter need not lead to any change of views as to the nature of Socrates' teaching, and is in fact not only consistent with the traditional view

but an integral part of it. So far, therefore, we have reached no new conclusion. There remains only the question of Socrates' interest in mathematics.

Here Prof. Taylor states his conclusion in these words. Socrates "possessed mathematical attainments of an advanced kind, another link with Pythagorean science". But it would not seem that the evidence put forward really justifies this conclusion. All the points that Prof. Taylor mentions are (1) the measuring of the flea's jump, (2) the use in the *Clouds* of so-called technical terms *χωρίον* and *παρατέταται*, (3) the use of compasses and *διαγράμματα* in the abduction of the cloak, and (4) the comparison with Thales. Surely this is very weak evidence from which to conclude that Socrates possessed mathematical attainments of an *advanced* kind, even when one remembers that it is taken from a caricature. But let us examine it a little more closely. With regard to the misuse of 'technical' terms, not everybody will be inclined to agree with Prof. Taylor, I imagine, in holding that *τὸ χωρίον* is "misused here (l. 52) for comic effect". It is a sufficiently common word outside Pythagorean geometry, though it may be granted that it is inaccurate here to use it for the linear distance of the flea's jump. But to say that in l. 213 *παρατέταται* is also meant to suggest a technical term is surely absurd. On the one hand it is by no means certain that *παρατείνειν* was a regular technical term. Prof. Taylor refers to the well-known passage in the *Meno*, where Thompson's note runs: "The only other place in any classical author where *παρατείνειν* occurs as a geometrical term is in *Republic*, 527 A". (There it is put into the mouths of utilitarian geometers along with *τετραγωνίζειν* and *προστιθέναι*.) As Prof. Taylor himself points out (p. 156 n.), the technical word in *Euclid* for the meaning required is *παραβάλλειν*. But one can easily see that *παρατείνειν* might be naturally used for the application of a rectangle to a straight line without becoming a technical term. Secondly, there are numerous parallel instances of the use of the word in geographical descriptions, as it is here used of Euboea. (Compare Herodotus, II., 8, IV., 38; Thucydides, IV., 8.) Indeed one of the meanings given in Liddell and Scott is "to stretch out, lie beside, before, or along, of a wall, line of country, etc." It seems entirely unwarranted, therefore, to look for an allusion to the very rare mathematical sense when this perfectly natural one is to hand. If any motive for the use of the word is to be sought, it would seem that is rather to be found in the pun which follows—the 'double entendre' of "stretching out".

At the risk of being considered meticulous, I must also refer to the comparison with Thales, on which Prof. Taylor seems to lay some stress. One can imagine him inquiring, "Why Thales? Why not Hippias (*e.g.*), or some more distinguished mathematician? Ah yes! Thales was the great *practical* mathematician, interested in the application of mathematical results to everyday life. Hence he is selected here to show that Socrates was interested in mathematics in the same sort of way. How admirably do these small details confirm the account of Xenophon (*Memorabilia*, iv., 7)! How unjustly has he been suspected!" Thus the imaginary Prof. Taylor arguing for the veracity of Xenophon. For it is true, of course, that Thales both cared and knew very little about the theory of mathematics, and, as Burnet says in his account of him, only made easy application of the Egyptian instrument called the 'seqt'. So, too, Prof. Taylor says that "the point of the comparison is of course that Thales was credited with a number of remarkable applications of mathematics to problems of practical life". The proper conclusion is, therefore, that Socrates was also interested in mathematics in so far as they could be applied practically, and is not that precisely what Xenophon tells us—that Socrates was interested in geometry so far as it enabled a man to measure his land more accurately, in arithmetic so far as it helped in the keeping of accounts, and in astronomy so far as it was useful to the pilot? That account agrees admirably with the *Clouds*, and there is, moreover, a remarkable verbal coincidence of the kind in which Prof. Taylor delights. In ll. 201-2 of the *Clouds* we are told that Strepsiades, pointing to some object, asks, "What's that there?" "Geometry" is the answer. "What's the good of it?" "To measure land" (*γῆν ἀναμετρεῖσθαι*)—precisely the object which Xenophon mentions as approved by Socrates. The result seems clear therefore that geometry as taught in the *φροντιστήριον* had a practical end. Even the measuring of the flea's jump suggests this. But this result by no means warrants the conclusion that Socrates possessed "mathematical attainments of an *advanced kind*". It will not in any sense prove what Prof. Taylor is anxious to prove, that the historical Socrates looked upon mathematics in the same way (*e.g.*) as the Socrates of *Republic* VII. It does not in the least support the position laid down in the 'Foreword' to *Varia Socratica* that "the stress laid on the *μαθήματα* as a vehicle of spiritual purification . . . belonged in very truth, as their common faith, to the Pythagorean or semi-Pytha-

gorean group, whose central figure twice over receives something like formal canonisation from the head of the Academy ". In short, the caricature in the *Clouds* does not at all suggest that Socrates was interested in the mathematical sciences as sciences. But the Platonic Socrates certainly was. There is therefore a discrepancy here which needs further explanation. Moreover, just as we have seen to be the case with physics, so with mathematics Xenophon's account seems to be true, namely, that in his maturity Socrates took no interest in mathematics except in so far as they could be practically applied, but yet he had at one time learned the higher mathematics, so that he could be described as 'not ignorant of them' (*Mem.*, iv., 7, 3). Either of these facts would justify the place of geometry in the Phrontisterion in the *Clouds*' caricature. But it no more follows that Socrates retained an interest in mathematics, and insisted on their supreme value as propædeutic studies, than that a man who has once learned Greek, and subsequently become a member of the Stock Exchange, might be justly described as an enthusiastic Greek scholar. His attitude towards Greek studies might well be equally utilitarian as Socrates' towards mathematics.

It remains to add a few remarks about the general nature of the φροντιστήριον with the object of showing that it was not regarded by Aristophanes as a home of speculation but rather as a place of training for practical life. In this regard it may be worth while to point out that the nickname φροντιστής does not necessarily or even naturally connote "*speculative* philosopher". It might very well be applied to the Socrates of the Platonic Apology, for example, with his perpetual interrogations. The name taken by itself would certainly not lead us to imagine that Socrates was notorious for his interest in mathematics and physics. But I prefer rather to rely on the express evidence to be found in the *Clouds* itself that the aim of the education there caricatured is a practical one. This point needs no argument to support it against Prof. Taylor—for he himself recognises it (p. 170)—but it does require further emphasis and illustration. Moreover, his recognition of it is marred by its association with the 'fanciful' theory that the education in the φροντιστήριον is a caricature of that in the *Republic*. If that were true, of course, the end might very well be 'practical' while the means were the speculative sciences. But I trust sufficient has already been said to show that such a suggestion is worthless. The truth seems rather to be that in the φροντιστήριον the education itself, as well as the end it helped to realise, were both practical. And I would venture to main-

tain that there is every probability that such was the method of the historic Socrates. Prof. Taylor in one passage (p. 171 note) refers to *Memorabilia*, iii., 6, and says that it gives the impression that "Xenophon is trying to expound the theory of the πολιτικὴ τέχνη, but has understood it so imperfectly as to confound the 'art royal' with mere knowledge of political statistics". I submit that that is not Xenophon's blunder but the true nature of the Socratic teaching. The sort of knowledge necessary for a statesman in Socrates' opinion was not knowledge of geometry and astronomy, but rather knowledge of the size of the army, the resources of the country, and the regulation of the food supply, etc. One may appeal for verification to the *Republic*, Book IV. No demonstration is needed that σοφία, the virtue of the rulers there, is pre-eminently a 'practical' virtue. It is not at all the 'speculative' virtue which is afterwards assigned to the philosopher kings. Perhaps it would not be very far wide of the mark to suggest that the historical Socrates is well represented in Books II.-IV. of the *Republic*, while Plato's own views are to be found in Books VI.-VII. Prof. Taylor would doubtless object to such a separation between the two parts of the *Republic* (p. 171 note), and the question cannot be argued here. But it may be worth recalling the fact that according to Lutoslawski[1] stylistic evidence would place Books V.-VII. later than Books II.-IV. I seem to remember, too, that there is high authority[2] for the statement that stylistic evidence is the only trustworthy basis of inference. However, that is a digression. The main suggestion is that if Socrates wished to train men for public affairs, he would have trained them to study 'political statistics' and so forth. And, as has been said, Prof. Taylor recognises that "the end to be achieved by a course in the φροντιστήριον, as we are expressly told by the *Clouds* themselves, is efficiency as a director of public affairs".

Let us illustrate this point further. Strepsiades urges Pheidippides to join the school, "if he cares for his father's bread and butter" (l. 105).[3] In answer to Pheidippides' question, "What can they teach," he answers :—

> "It's said they keep in there two Arguments,
> The Better as they call it and the Worse,
> And of these two the Worse, as rumour goes,
> Can always win however bad its plea.
> If you will learn the Unjust Argument
> Of all the debts which you have brought on me
> I needn't ever pay a single penny" (ll. 112 *sq.*).

[1] *Origin and Growth of Plato's Logic*, pp. 322-4.
[2] MIND, N.S., xii., p. 20, Taylor, "On the first part of Plato's *Parmenides*".
[3] I use a translation by Messrs. Godley and Bailey.

Or let us go to the meeting of Socrates and Strepsiades (ll. 239 *sq.*). Socrates asks, "Why have you come?" Strepsiades answers, "I want to *learn to speak*. For usurers and creditors have plundered me and threaten to convict me." That at any rate is what the 'common herd' think of the *φροντιστήριον*, that they can learn to speak there, and ex hypothesi the dullest peasant knows all about the teaching of the 'Reflectory'. Moreover, Socrates at the 'initiation' promises that Strepsiades will be "as sounding brass, the flower of speakers," and the *Clouds* urge him to take as his ideal "what befits a man of parts in debate to be victorious and in all the statesmen's arts" (ll. 417-19). Strepsiades replies that all he wants is "only just to be ten miles the smartest speaker in the land" (l. 430). Then we have the *Clouds*' promise—as quoted by Prof. Taylor.—"From this day we here decree, no one else shall carry resolutions more successfully". More might be quoted but perhaps enough has been said to show that men would go to the 'Reflectory' not to learn mathematics or physics but rather to be trained as successful politicians. They would learn the arts of argument and clever speaking—just as Socrates himself was unrivalled in 'dialectical' argument and cross-examination.

It is exceedingly hard to see, therefore—and this is the summary of the present paper—in what way the caricature in the *Clouds* contradicts the picture of Socrates in Xenophon's *Memorabilia*.[1] In both cases Socrates' chief interest is in the 'practical' sciences of Ethics and Politics. In both it is made clear that he was acquainted with physics and mathematics, and had at one time studied them. The *Memorabilia*, agreeing here with Aristotle, as well as with the *Apology* and *Phaedo*, adds that Socrates abandoned the more speculative sciences in favour of the more practical. Therefore what is chiefly characteristic of Socrates is this practical interest. The only further information that we may hope to get from the *Clouds* is as to the exact time at which Socrates abandoned his physical studies. (I say nothing of mathematics, as he may have retained an interest in their *practical* applications, but not the interest spoken of in *Republic* VII. as supreme.) As the *Clouds* was produced in 423, it may be assumed that Socrates could still plausibly be represented as interested in science at that time—*i.e.*, when he was over forty. That is the very most which Prof. Taylor can claim, and even for that there is little foundation.

[1] The *Clouds* do not of course furnish any direct evidence for the statement that Socrates taught a theory of ideas. This is an exceedingly important omission.

We cannot expect that Aristophanes, for the purpose of caricature, would be too careful to keep up with the stages of Socrates' mental development. It would be enough for him if Socrates had been at *one* time a student of physics. That would be quite sufficient basis for the little stress laid on physical science in the *Clouds*. A caricature is not wholly false, but neither is it wholly true. And a comic poet would not scruple to confound the Socrates of five or ten years before with the Socrates of the day. We may justly say that thirty years of Socrates' life are left after the *Clouds*, in which he might develop his own peculiar interest in Ethics and Politics. Even from the *Clouds* themselves evidence can be gathered that Aristophanes was aware of this change in the attitude of Socrates. Prof. Taylor says nothing, except in his Postscript, about the two editions of the *Clouds*. But it appears to be generally accepted among Aristophanic scholars that the discussions between the two 'Reasons' was added in the second edition, and was not present in the acted version. If this be true—and I only accept it on authority—it is of considerable importance to note that Aristophanes, in rewriting the play after its first failure, was careful to emphasise the part played in the φροντιστήριον by ethical and political teaching rather than by scientific studies. It would show that he did recognise increasingly the 'practical' nature of the Socratic teaching. Some scholars have gone further, and maintained that many sentences are added throughout the play, illustrating this practical tendency. Although their conclusions seem to be based mainly on mere conjecture, the general point would seem to possess considerable interest for the student of Aristophanes' attitude towards Socrates. Moreover, one must remember in this regard the explicit denial in the *Apology* of the *Clouds*' caricature so far as it suggests scientific interests. Prof. Taylor, after a discussion in his Postscript, concludes that we need not agree with Chiappelei "that Aristophanes, who had originally treated Socrates as a harmless pedant, came afterwards to view him as a moral pest". Perhaps not. But it is surely clear that Aristophanes recognised that there was a moral and political side to Socrates' teaching.

It is sufficient to emphasise this, and at the same time to point out that Prof. Taylor's chapter seems to give an exaggerated account of the speculative elements in the caricature. It is hard to see exactly what he thinks can be proved from the *Clouds*. I have taken as a rough test throughout the question whether the historical Socrates held the doctrines enunciated in the *Republic* VI.-VII. I do not know whether

Prof. Taylor believes that, but I gather that he does. What I wish to maintain, therefore, is that the *Clouds* do not in the least justify that contention, but that, on the other hand, they agree very closely with the testimony of Xenophon, whom Prof. Taylor dismisses with something like contempt. Whether the other chapters of the *Varia Socratica* establish the thesis I have—mistakenly I hope—ascribed to Prof. Taylor, I must leave others to judge. But I will end as I began with the expression of my own opinion, that they do not. Nevertheless, while they may not yet be willing to re-write the history of Greek philosophy, students of Socrates and Plato will be grateful to Prof. Taylor for much of his evidence.

IV.—NEGATION CONSIDERED AS A STATEMENT OF DIFFERENCE IN IDENTITY.

By Augusta Klein.

We are all familiar with the Hegelian and post-Hegelian doctrine which treats all predication as the statement of an Identity in Difference. With regard to Affirmation this doctrine has been strikingly illustrated by a theory expressed first by Miss Constance Jones[1] as long ago as 1890, and, a little later, by Prof. Frege.[2] An affirmative categorical proposition, says Prof. Frege, asserts identity of *Bedeutung* with difference of *Sinn;* and Miss Jones has long maintained that it asserts identity of Application with difference of Intension. But negative predication Miss Jones interprets as an assertion of "difference of Denotation (Otherness) in difference of Intension (Diversity)".[3] To this interpretation of Negation I venture to oppose a view which may perhaps be thought to supplement it at a point where it appears to be defective.

The interpretation of negative predication proposed by Miss Jones has this great merit, that it takes Negation seriously and gives it the rightful degree of logical importance. Few things are more striking in the history of Logic than the injustice which has constantly been done to Negation, and the contemptuous treatment which even in present-day textbooks it very commonly receives. The traditional theory of Predicables, for instance, is perfectly content to ignore it altogether. In the original doctrine formulated by Aristotle this omission was natural, and, indeed, inevitable, since, as Dr. Zeller says: "Da er die Copula noch nicht bestimmt vom Prädikat unterscheidet, weiss er auch die richtige Bezie-

[1] See *Elements of Logic as a Science of Propositions*, by E. E. Constance Jones (Edinburgh, T. & T. Clark, 1890), Section vi., pp. 46-52; Section xv., pp. 127-129.

[2] See "Mr. Russell's Objections to Frege's Analysis of Propositions," by E. E. Constance Jones, Mind, July, 1910, p. 379, and footnotes 1 and 2. *Cf.* a more recent article by Miss Jones entitled "A New 'Law of Thought' . . . ," Mind, Jan., 1911, p. 49.

[3] Mind, Jan., 1911, p. 42.

hung der Negation noch nicht zu finden: er spricht es nirgends aus, dass sie in Wirklichkeit nur der Copula gilt, nur die Verbindung des Subjects mit dem Prädikat, nicht das Subject oder Prädikat selbst verneint . . ."[1] But when we come to the post-Aristotelian Logic[2] which definitely recognised the Copula as one of the three elements of the Categorical Judgment, and thus was able to place Affirmation and Negation in their proper relation one to the other, then it is strange to find no recognition of the truth that the existing scheme of Predicables held good for affirmative predication only, and that, if the doctrine of Predicables is to be an exposition of Predication in general and not merely of Affirmation, a second scheme, of terms negatively predicable of their subject, is urgently required.

This, of course, is not at all to say that Affirmation and Negation must be put on the same level, as strictly co-ordinate kinds of judgment. On the contrary we may earnestly maintain the rights of Negation and yet at the same time may fully accept a significant saying of Aristotle, who, in comparing affirmative with negative premisses, emphatically declares: *ἡ δὲ καταφατικὴ τῆς ἀποφατικῆς προτέρα καὶ γνωριμωτέρα· διὰ γὰρ τὴν κατάφασιν ἡ ἀπόφασις γνώριμος, καὶ προτέρα ἡ κατάφασις, ὥσπερ καὶ τὸ εἶναι τοῦ μὴ εἶναι.*[3] We may heartily agree with Dr. Sigwart when he says that "das verneinende Urteil kann . . . nicht als eine dem positiven Urteil gleichberechtigte und gleich ursprüngliche Species des Urteils betrachtet werden,"[4] and in exalting the status of Affirmation and depressing that of Negation we may go as far as our logical convictions require. We need no more in Logic set Negation on the same level with Affirmation than in ethical or theological speculation we need set Evil on the same level with Good. As, in Ethics, we may hold that moral evil is neither primary nor ultimate, so, as logicians,

[1] *Die Philosophie der Griechen* . . . von Dr. Eduard Zeller, dritte Auflage (Leipzig, 1879), 2ter Theil, 2te Abtheilung, 2te Periode, 3ter Abschn., S. 221. *Cf.* Dr. Carl Prantl's masterly exposition, *Geschichte der Logik im Abendlande* (Leipzig, 1855), erster Band, 4ter Abschn., SS. 143, 144, 160.

[2] This phrase is necessarily vague; for the history of the Copula is exceedingly difficult to trace. The first logician who ever gave a clear and consistent account of *the Copula as such* seems to have been Alexander of Aphrodisias, Scholarch of the Lyceum in the reign of Septimius Severus, about A.D. 200. See Prantl, *ibid.*, 11ter Abschn., SS. 620, 624, especially Anm. 28.

[3] *Ar. Anal. Post.*, Book I., chap. 25, p. 86*b*, 33-36.

[4] See *Logik*, von Dr. Christoph Sigwart, dritte Auflage (Tübingen, 1904), erster Band, 4ter Abschn., § 20, S. 155. *Cf. The Principles of Logic*, by F. H. Bradley, LL.D. (Kegan Paul, Trench & Co., 1883), Book I., chap. iii., § 2, p. 109.

we may see clearly that Negation arises only and always on a basis of Affirmation, and, further, that even in such relative negation the mind can find no rest, that no sooner have we made a negative predication by asserting a limitation than we find that we have gone on to make a positive judgment by *affirming the limited.* As a speculative Ethic might teach with Saint Augustine that there is no such thing as *mali natura,*[1] that there is in evil neither concreteness nor finality, so we may well believe that Negation, starting always from Affirmation and returning into it again at a further stage of concreteness, is in no sense ultimate, that pure negation is non-existent, and that relative negation is an abstraction made only to be transcended, so that *τὸ Naí* alone is final. All this we may accept, and as many other speculative opinions as we please, and yet see that no doctrine of Predicables is complete that does not present a negative as well as an affirmative scheme of predications. If we would develop the logical intension of a term, we must state not only what our subject is, but also what it is not. It may be quite true that Negation is an abstraction, that logical intension, concretely considered, is always positive, and that negative not only presupposes affirmative predication, but, further, serves only to enable us to re-assert in a concreter sense the predicables of our affirmative scheme; but it is true also that, as it is only through transcending Negation that our abstract affirmations become concrete, so also the investigation of logical intension will be but a formal and profitless exercise unless it is based not only on the consideration of Affirmation but also on the recognition of negative as relatively distinguished from affirmative predication.

Yet we constantly find that logicians are content to construct their theories of Judgment and Proposition on the basis of mere Affirmation, and then, as an afterthought, to give to Negation a separate treatment which in some cases is never brought into systematic relation with the general theory at all. I cannot but think that the Hegelian and post-Hegelian theory of Predication as the statement of an *Identity in Difference*[2] suffers from this defect. That theory is undoubtedly an admirable expression of at least one aspect of *affirmative* predication. Every affirmative proposition may (as Hegel says[3] of "every judgment") be interpreted as stating

[1] *Civitas Dei*, Book XI., chap. ix.

[2] See *The Logic of Hegel*, translated by William Wallace, LL.D., 2nd edition (Oxford, Clarendon Press, 1902), chap. viii., § 115, pp. 212-215; chap. ix., §§ 166-171, pp. 297-302. *Cf.* p. 393 (see also Bradley's *Logic*, Book I., chap. v., § 1, p. 131).

[3] *Ibid.*, pp. 298, 302.

an identity of Subject and Predicate, while at the same time it implies their difference. But in negative predication it surely is not so, for here it is the difference that is stated, the identity that is implied.

On the other hand, Miss Jones, who interprets the propositional form *S is not P* as asserting *Difference* (of Denotation) *in Difference* (of Intension) fails, as I venture to think, to do justice to the concrete significance of negative predication. She regards "the Law of Identity" when expressed in the formula "*A is A*" as a "tautology," and assures us that "'mere identity' is our undoing".[1] Yet, if mere identity is meaningless, surely mere difference is equally unintelligible, and it is mere difference that negative predication, in her analysis, undoubtedly seems to express. As the Hegelian doctrine, which treats all predication as an *Identity in Difference*, fails to do justice to the *negative statement* of the predication *S is not P*, so Miss Jones, interpreting Negation as the assertion of a *Difference in Difference*, seems to ignore its *affirmative implication*. To me it seems that Negative Predication should be interpreted as asserting neither a Difference in Difference nor an Identity in Difference, but a *Difference in Identity*.

Nor is the distinction between these last two formulæ—the distinction between Statement and Implication—in any sense frivolous or logically unimportant. Logicians who are superior to such relative distinctions as those between Fact and Judgment, between Judgment and Statement, between that which is and that which is asserted, naturally tend to minimise also the difference between that which is stated and that which is implied; but for those who (like all who belong to that Cambridge School of Logic of which Miss Jones is one of the most distinguished members) resolutely refuse to ignore distinctions which are purposive though they may not be ultimate, emphasising even merely provisional common-sense distinctions and seeking always to find a way in which they may be ultimately not denied but transcended—for them the difference between Statement and Implication is something that cannot be lightly dismissed. If affirmative predication (regarded from the standpoint of an exposition which presents it as analysable into Subject, Predicate and identity copula) may be interpreted as a statement of identity of objective reference implying a partial difference of intension, and if negative predication (regarded as analysable into Subject, Predicate and difference-copula) may be interpreted as

[1] MIND, January, 1911, p. 52.

a statement of difference of objective reference implying a partial identity of intension, then, whatever our theory of Judgment or Proposition may be, we must beware of expressing it in any formula which does not do full justice to both these kinds of predication. To describe predication in general as the statement of an Identity in Difference, I cannot but think is misleading.

The expression *difference-copula* (used as meaning a copula that states a difference while merely implying an identity) will by some readers be thought questionable. It suggests a view which is directly opposed, for instance, to the Sigwartian interpretation of Negation. The truth is that of that method of exposition which, constructing its theory of Judgment upon the consideration of Affirmation alone, treats Negation separately, and only, as it would seem, as an afterthought, and of the disastrous results of that procedure, there is perhaps no more striking example to be found than Dr. Sigwart's in other respects masterly and convincing treatment.[1] In the two long and important chapters which, in the first volume of his *Logic*, he devotes to the study of Categorical Judgment in general—chapter ii. on "Die einfachen Urteile" and chapter iii. on "Die Entstehung der Urteile . . ." *u.s.w.*—he is quite obviously making a study simply and solely of Affirmation. Throughout these eleven powerful sections (§§ 9-19), with their elaborate analysis and classification of Judgments, we read ever and always of the "In-Einssetzung" of Subject and Predicate, of their "Verknüpfung zur Einheit," of their "Verbindung," their "Einssein," their "Uebereinstimmung"; and amid all the wealth of apt illustrations wherewith these eighty-eight closely printed pages are enriched and elucidated there is not a single instance of a negative proposition. Only when the general exposition of (Categorical) Judgment, its psychological and logical analysis, and the classification of its various species are over and done with do we at length come (in chapter iv.) to a separate treatment of "Verneinung" with which the general theory of the two preceding chapters would seem to have very little to do.

And this is not merely a question of literary arrangement or of a convenient order of exposition. Such an arrangement and such a method of exposition as this is a procedure which makes the treatment of Negation inevitably and of necessity inadequate. By no other method could Dr. Sigwart have arrived, for instance, at his strange conviction with regard

[1] *Logik*, erster Band, Abschn. 2-4, §§ 9-25, SS. 66-210.

to the function of the Copula in the Negative Judgment.[1] "Die Copula," he writes, "ist nicht der Träger, sondern das Object der Verneinung; es gibt keine verneinende, sondern nur eine verneinte, Copula."[2] Nor can he possibly write otherwise; for, having through a careful study of the Copula *as used in Affirmation* constructed a theory of the Copula, *of Judgment in general*, as "den Ausdruck desjenigen Denkacts, durch welchen im Urteil ein Prädikat auf ein Subject als mit ihm congruierend, als Eigenschaft oder Tätigkeit bezogen wird," and having added the inevitable corollary: "so ist damit eine Einssetzung ausgesprochen; und es kann keine Art der Einssetzung sein, Subject und Prädicat auseinanderzuhalten und es gar nicht zur Einheit kommen lassen," he cannot but end by triumphantly dismissing the "verneinende Copula" with the final and, superficially considered, unanswerable declaration that "ein Band, welches trennt, ist ein Unsinn".[3] Even this last statement is, of course, contestable. Not only is the metaphor in any case of too external and mechanical a kind to illustrate that which Dr. Boyce Gibson has aptly called "the systematic intimacy of subject and predicate within a proposition";[4] it is, further, true that every "connexion" does implicitly "divide" in the sense of emphasising the distinction of the things or elements connected. But this is not the point I wish to make. Rather I would insist that the copula in a negative judgment may be interpreted not as implying but as directly expressing a difference of objective reference within the identity which constitutes its implication.

For what intelligible meaning can we give, in this connexion, to the phrase "verneinte Copula"? If that which a negative judgment negates is its own copula, or rather, perhaps, the copula of that affirmative (or, as Dr. Sigwart prefers to call it, "positive")[5] "*vollzogenes oder versuchtes Urteil*"[6] which every negative judgment presupposes, then, since in every categorical judgment "das Subject dasjenige ist, wovon etwas ausgesagt wird,"[7] this copula is now the *subject* of our negative judgment. And its *present* copula,

[1] *Cf. The Problem of Logic*, by W. R. Boyce Gibson, M.A., D.Sc. (A. & C. Black, 1908), chap. xii., *ad fin.*, p. 126. This passage, however, sets forth a doctrine, concerning the identity expressed by negative predication, which, in striking corroboration of the illustration with which the paragraph ends, I am now unable to accept.

[2] *Logik*, erster Band, 4ter Abschn., § 20, 4, S. 159.

[3] *Ibid.*, SS. 158, 159.

[4] *The Problem of Logic*, *l.c.*

[5] *Logik*, *l.c.*, § 20, 1, S. 156.

[6] *Ibid.*, S. 155.

[7] *Ibid.*, erster Abschn., § 5, S. 27.

we must remember, is not "verneinende" but "verneinte," so that *this* "verneinte Copula" must in its turn be promoted to the place of Subject, and so on *ad infinitum*. Dr. Sigwart himself insists that "die Verneinung ist also unmittelbar und direct ein Urteil über ein versuchtes oder vollzogenes positives Urteil, erst indirect ein Urteil über das Subject dieses Urteils,"[1] and seems to regard with indifference, or at least with perfect equanimity, the infinite regress in which he is thus involved.[2] Nor does he give us any hint of explanation concerning the universally prevalent grammatical form of our negative propositions. By leading us to the conclusion that in negative predication the grammatical subject never is or expresses the logical subject, he obliges us to infer that all our negative statements, instead of expressing our judgments, entirely misrepresent them. Whenever we make a statement of the form *S is not P*, though we seem to be talking about S, our grammatical subject S is not that about which we mean to state anything at all. The universal form of negative proposition entirely belies its meaning. But, if we do not mean to state anything about S, why do we do so, or at least pretend that this is what we are doing? Why should we spend our lives in saying one thing and meaning another?[3]

That the negative categorical states a difference of objective reference is a point upon which we need no longer dwell; but the implied identity is less obvious, and is an element to which logicians have hardly yet done justice. For this *implication* of Identity is something more than that *presupposition* of Affirmation upon which many logical writers have insisted. Not only is it true (to quote again Dr. Sigwart's statement) that every negative judgment presupposes "ein versuchtes oder vollzogenes positives Urteil";[4] not only may it be undeniable that, as Dr. Bradley tells us, "negation presupposes a positive ground,"[5] and that "The basis of negation is really the assertion of *a quality that excludes*";[6] but further, beside these *presuppositions* of the Negative Judgment there is in the negative predication itself an implication of identity between Subject and Predi-

[1] *Logik, l.c.*, § 20, 4, S. 159. [2] *Ibid.*, Anm., S. 166.

[3] I venture to think that, *mutatis mutandis*, this crude, common-sense argument is relevant also to Dr. Bradley's contemptuous treatment of the "grammatical subject," of affirmative as well as negative predication, in the first chapter of *The Principles of Logic*. See especially § 16 (*b*), p. 23.

[4] *Logik, l.c.*, § 20, 4, S. 159. *Cf.* SS. 155, 156.

[5] *The Principles of Logic*, Book I., ch. iii., § 2, p. 109.

[6] *Ibid.*, § 6, p. 112.

cate ; for it is implied in the relevancy and therefore in the logical meaning of a negative proposition that its terms are so related one to the other as to be partially *identical in intension*.

By relevancy I here mean, of course, that relevancy to purpose or interest which, long ago recognised by Plato [1] and in our own times emphasised by Dr. Stout in Psychology [2] and by Pragmatist thinkers in everything else, has been presented by many modern writers (for instance by Dr. Bergmann,[3] Dr. Bosanquet,[4] and Dr. Boyce Gibson [5]) as of paramount importance in Logic—Dr. Bosanquet especially having admirably set forth the determining influence of Interest on Judgment in general and in particular upon Negation.[6] This is a large subject, and we are here concerned only with one small part of it, with the truth that it is relevancy to purpose in Negation which secures that implication of partial identity of intension between Subject and Predicate without which the asserted difference would have no meaning, while irrelevant negations entirely fail to do so.

When Dr. Bradley for our spiritual consolation assures us that "The soul is not an elephant, nor a ship in full sail, nor a colour, nor a fire-shovel," [7] why is it that we do not feel consoled? Because affirmation alone is ultimately consolatory, and *these* negations do not lead on to affirmations. They are not such as, when confronted with the attributes affirmatively predicable of the subject-term, are found to present denials that can be transcended. They do not express such limitations of meaning as would enable us to re-assert in a concreter sense the affirmatively predicable attributes. And the reason why they do not do this is

[1] Rep. x., chap. iv. (Teubner Text), 601 D. See "The Cardinal Principle of Idealism," by Ralph Barton Perry (MIND, July, 1910, p. 323).

[2] See *Analytic Psychology*, by G. F. Stout, LL.D. (London, 1896), Book II., chap. iii., § 1, pp. 225-228 ; § 2, p. 232. See also *A Manual of Psychology*, by the same author, Second Edition (London, 1901), Book I., chap. ii., p. 81 ; Book IV., chap. ii., pp. 440, 441 ; Book IV., chap. iii., pp. 456, 457. Also *The Groundwork of Psychology*, Second Impression (London, 1903), chap. iii., p. 20 ; chap. vi., pp. 55, 56.

[3] See *Allgemeine Logik*, von Dr. J. Bergmann (Berlin, 1879), erster Theil ; *Reine Logik*, erster Abschn., § 6, 5, S. 47.

[4] See *Logic, or The Morphology of Knowledge*, by Bernard Bosanquet, LL.D. (Oxford, 1888), vol. i., Intr., 5, vi., p. 23. *Cf. The Essentials of Logic*, by the same author (London, 1903), Lecture ii., p. 30.

[5] See *The Problem of Logic*, Pref., p. ix.

[6] *Logic* . . . vol. i., Book I., chap. vii., pp. 295, 300-302.

[7] *The Principles of Logic*, Book I., chap. iii., § 13, p. 116. Dr. Bradley of course gives these examples of negation as "intentionally absurd suggestions" (*ibid.*).

that they are not (in relation to any spiritual or psychological interest) sufficiently closely related to them in meaning. It is the relevantly close intensive relation of Subject and Predicate in negative predication—in other words, it is the relevantly close relation between terms affirmatively and terms negatively predicable of the Subject—which alone can give significance to Negation.

We have then to bear in mind that negatively predicable attributes can be admitted to the formulation of the intension [1] of a subject-term only so far as they are able to develop by limitation that term's affirmatively asserted predicates. The task that lies before us seems to be this,—to reconsider our schemes of affirmative predication (whatever they may be) in order to ascertain how they may be limited and by limitation developed, remembering always that a desire for formal symmetry is apt to mislead, and that we have to inquire not what negative predicables would look well as constituting negative schemes that should neatly correspond to our affirmative schemes of predicables, but what, in limiting and so completing a term's intension, are the kinds of term that we actually do negatively predicate of our subject. Only by some such procedure as this can we hope to achieve an adequately systematic logical treatment of Negation.

[1] By "intension" I do not here mean the intensive meaning of the subject *as used in the predications* which assert of it the several attributes. I mean that full logical intension which is *developed* by successive acts of predication, the intension which is not fully formulated until all the relevant predications have been made.

V.—DISCUSSIONS.

SELF-CONSCIOUSNESS AND CONSCIOUSNESS OF SELF.

In the present discussion we shall first attempt to set forth the difference between self-consciousness and the consciousness of self. Then we shall emphasise the true relation between the two terms. And, finally, we shall go on to point out the bearing of these previous considerations as regards the problem of the nature of the Absolute.

We consider first the difference between self-consciousness and consciousness of self. The meaning of the latter term, one would think, is not difficult to fix. By consciousness of self we understand that experience of contrast between the self and something other than the self, in which the disparateness between the self and its Other is emphasised. In this experience the self, as a particular group or centre of interests, stands opposed by an Other (whatever that Other may be) which is regarded as more or less foreign to that centre of interests with which the self of the moment is identified. In a word, consciousness of self is the feeling that arises as a result of the isolation of the self within its environment; it is the contrast-effect between the self and the not-self.

That such is the essence of the experience may be made evident by illustration. Since the experience is most clearly manifest in novel situations, we look among the emotions for typical illustrations. Take the case of the embarrassed lad making his first appearance in the *rôle* of orator. Here we have consciousness of self in a very intense form; and the greater the embarrassment, the more intense is the consciousness of self. Now the very centre and soul of this experience is the lad's awareness of his particular self encompassed by a disconcerting not-self, an Other that is (from his point of view) foreign and hostile to his individuality. The intense feeling that between himself and his audience a great gulf is fixed constitutes his embarrassment. And this contrast-effect is what we mean when we say that the lad is conscious of self. The same fact is illustrated in grief. The heart bowed down by weight of woe is conscious of self. Here again the essence of the experience is the contrast between the self and its Other—in this case, the self that is bereaved and the object of affection that is separated from it. For grief is just the intensified feeling that the self is incomplete and fragmentary apart from its Other which now lies beyond it. Con-

sciousness of self also manifests itself as fear. And here, once more, the emphasis is thrown upon the self as opposed by an Other, whether real or imaginary, which is looked upon as hostile; the object of dread brings home to the individual a sense of his incapacity to cope with the exigencies of the situation. The wicked fleeth when no man pursueth because the self of wicked purposes is out of harmony with its environment. Other illustrations, within the realm of emotions as well as outside it, suggest themselves; but they need not be mentioned in detail. They all point to the same lesson, namely, that consciousness of self, as was said above, is essentially an other-regarding experience, in which the contrast between the self and its Other is of such a nature as to throw the emphasis upon the disparateness between the two. It is just that limitation of the self by its Other, the presence of which is a more or less disconcerting fact.

Self-consciousness, however, is a very different category. When we think of self-consciousness we have in mind the intrinsic nature of the stream of consciousness itself rather than its relation to something more or less foreign to it. Here we are dealing with, not the contrast-effect between the self and its Other, but rather that totality of experience that may or may not be thought of as thus limited. Self-consciousness is an inward-looking category that refers to the continuity of the processes with which, as a whole, we identify the self. It is what Kant would call the 'transcendental unity of apperception,' in terms of which the unitary nature of experience is expressed.

Here, again, illustration will help us. The self-consciousness of our young orator is that whole of experience which he calls himself and which he is so painfully aware is different from the audience out there before him. The self-consciousness of the sorrowing one is that totality of feeling which reaches so earnestly and yet so vainly beyond itself for its completion. Finally, the self-consciousness of the wicked one is that unity of conscious processes, vicious though those processes surely are, which he strives to preserve by flight. Self-consciousness is, thus, the stream of consciousness viewed as unitary, coherent, and continuous.

The difference between self-consciousness and consciousness of self, then, seems to be pretty clearly defined. Whereas consciousness of self has to do primarily with the relation which the stream of consciousness as a whole bears to something more or less clearly differentiated from it, self-consciousness refers to the relation that exists among the several constituent processes within the stream of consciousness. By my self-consciousness I mean that unitary experience which, as a totality, I call myself; consciousness of self, on the other hand, signifies that particular experience of contrast between this totality of experience which I call myself and an Other regarded as foreign and external to this totality.

Having defined the difference between these two categories, let

us now pass on to ask concerning their relation to each other. Specifically stated, our question is this: Is consciousness of self essential to self-consciousness, or may the latter exist apart from the former? The answer to this question which we shall undertake to establish is that consciousness of self (*a*) is not essential to self-consciousness, but (*b*) is rather incompatible with it. The two may exist together; but where consciousness of self is, there is not to be found the truest self-consciousness. It now remains to set forth the reasons for this answer.

(*a*) In support of the thesis that consciousness of self is not essential to self-consciousness, the following suggestions may be presented. In the first place, the emergence of self-consciousness does not presuppose consciousness of self as its condition. The assumption of a pre-existent feeling of opposition or contrast between the self and its Other, for the purpose of accounting for the feeling of unity within experience, seems arbitrary and unjustifiable. It is arbitrary, because no valid reason can be advanced in favour of it; it is unjustifiable, because, as we shall see in some detail below, it flies in the face of the facts of experience. But, in the second place, even if we agree to assume, arbitrarily and unjustifiably, that consciousness of self is a necessary presupposition of self-consciousness, we discover that our assumption is wholly without value. For when we have made the assumption, we are utterly unable to explain how self-consciousness grows out of consciousness of self, to show how the feeling of unity within experience arises out of this experience of contrast that we have assumed as its source. Both the necessity of the assumption that consciousness of self is logically prior to self-consciousness and the usefulness of the assumption when once it is made seem more than questionable.

In point of fact, self-consciousness is logically prior to consciousness of self. And here we strike the root of the whole matter. It seems clear that the self must exist before it can be contrasted with an Other. But the self exists only in so far as experience is a totality; unless the stream of processes be unitary, the self exists in no intelligible sense. Hence self-consciousness is essential to the contrast-effect; without self-consciousness, as Kant has unmistakably pointed out, conscious experience could be nothing more than a meaningless and lawless chaos, and could only metaphorically stand in contrast with anything else. Therefore, so far from its being true that self-consciousness presupposes consciousness of self, it seems indubitable that consciousness of self is theoretically impossible apart from self-consciousness. The contrast-effect between the self and its Other, with which we have identified consciousness of self, thus falls within the larger self-consciousness; unless the latter is presupposed, the former is absurd because self-contradictory. And we are now in a position to see why we were unable above either to discover any justification for the assumption that consciousness of self is a necessary presupposition of self-con-

sciousness, or to reap any benefit from the assumption when it is made. In making such an assumption we are simply trying to explain the totality of experience in terms of one incidental aspect of it.

(*b*) Not only must we say that consciousness of self is not the logical presupposition of self-consciousness, but that rather the contrary is true. Our analysis forces us to go farther. We must add that consciousness of self is in a very important sense incompatible with self-consciousness. Of course, the two are not contradictories: they may exist together. Wherever we find consciousness of self, there we also find self-consciousness; for the former, as we have indicated, cannot exist without the latter. But it remains true, nevertheless, that consciousness of self hinders self-consciousness. In so far as consciousness of self exists self-consciousness is not at its best. The truest self-consciousness is that in which there is the least degree of consciousness of self: self-consciousness is most intense when consciousness of self is at a minimum or is obliterated entirely. In this statement we are simply repeating a commonplace of everyday observation and a truism of ethics. It is only in the pre-occupied, self-forgetful individual that we expect to discover the expression of a genuine self; a man most truly is what he is in the dark. And he who sinks himself most deeply in the effort to obtain the goal of his aspirations, whatever ethical colouring those aspirations may have, is he whose selfhood we do not stop to question: it is the individual who is conscious of self concerning whose characteristics doubts inevitably arise. Truly, self-realisation is self-forgetfulness, and only he who loses his life shall find it. As the contrast between the self and its Other is overcome, as consciousness of self is eliminated from experience, self-consciousness is enlarged and intensified. This is the ineradicable truth in the ethical doctrine of self-abnegation.

Illustration of this truth is not difficult. Recall the case of our lad with oratorical aspirations. If you think of him as intent upon mastering his speech, you think of him as genuinely self-conscious; to the extent of his ability the totality of his mental processes is focussed about one purpose. Here, manifestly, consciousness of self would be a hindrance. For in so far as he is contrasting himself with something else—with his companions at play, with himself of an hour ago as he was busy with other things, and so forth—he is less able to attain that unity of purpose in which his real self of the moment finds its manifestation. And when the hour arrives for the delivery of his speech, consciousness of self, which is the predominant part of his experience at the time, all but empties his self-consciousness of content and turns expected triumph into dismal and humiliating defeat; the real self of the hour is completely overthrown. Contrast with our lad the mature orator, trained in the art of swaying multitudes. If the orator is affected with an over-estimation of his abilities, his powers are correspondingly

limited; for consciousness of self, though perhaps not so painfully evident to himself and others as it is in the case of the lad, is nevertheless present in sufficient degree to interfere perceptibly with that concentration of interests in which alone real self-consciousness abides. But if the orator submerges himself in his theme, if consciousness of self is eliminated and self and Other blend, then his power over his hearers is limited only by his ability to give birth and expression to thought; his self-consciousness quivers with vitality, and its vitalising agency kindles others of its kind. In the case of the embarrassed lad, incapable of uttering a single coherent sentence, consciousness of self is at a maximum and self-consciousness is at a minimum; in the case of the orator, experienced in his art but conceited withal, consciousness of self is reduced in intensity and self-consciousness is correspondingly intensified; finally, in the case of the orator who loses self in its object consciousness of self is at a minimum and self-consciousness, accordingly, at a maximum. Thus, we seem compelled to say, approximation towards true self-consciousness is concomitant with the progressive elimination of consciousness of self from experience.

We have said above that the contrast between the self and its Other is the essence of consciousness of self. Now it is true that self-consciousness also involves an Other, apart from which it is purely an abstraction. But this is no reason why consciousness of self and self-consciousness should be confused. On the contrary, it is here that their fundamental difference lies. The Other of self-consciousness is the entire content of consciousness; indeed, self-consciousness is just that content unified. But the Other in consciousness of self refers only to a small part of the full content of experience; the biggest part of the content is that with which the self is identified and which is contrasted with the Other. The Other of self-consciousness comprehends both extremes of the opposition with which we identify the experience of consciousness of self, the Other in the latter experience being only one of the extremes. Again, the Other in self-consciousness is the very breath of life to the experience, while the Other in consciousness of self is always regarded as that in which the self finds an obstacle of some sort. The Other in self-consciousness is, in a very important sense, identical with the self; but the very essence of consciousness of self consists in the opposition between the self and its foreign Other.

Our conclusions, then, are these. Self-consciousness is the comprehensive experience of which consciousness of self is a contingent characteristic. Whether or not one is conscious of self depends upon accidental circumstances of environment and training; whether or not one is self-conscious depends upon one's capacity for a unitary experience. That one should be conscious of self is entirely incidental to one's career; that one should be self-conscious is absolutely necessary to one's development as a

rational creature. It may be that consciousness of self is a necessary stage in the expansion and growth of human self-consciousness, but it certainly seems contrary to sound logic to say that the former is a necessary presupposition of the latter. At any rate, the lesson of experience seems to be that intensification of self-consciousness runs parallel with elimination of consciousness of self.

This discussion may be brought to an end by indicating briefly what are its implications. This can best be done in an application of our results to the problem of the nature of the Absolute.

Of course, it will be understood that we are not here interested in proving that ultimate reality assumes the form of an absolute Experience. Our undertaking is a less ambitious one. We are simply interested in determining whether or not the category of self-consciousness may legitimately be predicated of reality, granting that our metaphysical investigations force us to the doctrine of an Absolute. For the sake of the argument, we assume that we are believers in the hypothesis of the Absolute: can we predicate self-consciousness of the Absolute? This is the question which, in the light of the preceding discussion, we are to answer.

Idealists of a certain type, who uphold the doctrine of the Absolute, insist that the category of self-consciousness here breaks down. The Absolute cannot be self-conscious, they argue. And the reason they give for such a position is that in the experience of the Absolute there can be no opposition between the self and not-self, upon which opposition self-consciousness depends. The Absolute has no Other opposed to itself, and therefore the contrast-effect between itself and its Other is lacking; but apart from this contrast-effect self-consciousness is impossible. As an example of this sort of reasoning we may quote the following from Prof. Taylor's *Elements of Metaphysics*: "An experience that contains no discordant elements, in their character as unresolved discords, is not characterised by the contrast-effect which is the foundation of selfhood. An experience which contains the whole of Reality as a perfectly harmonious whole can apprehend nothing as outside or opposed to itself, and for that very reason cannot be qualified by what we know as the sense of self" (p. 344). Put directly, the argument here amounts to this: contrast-effect between the self and its Other is essential to the sense of self; in the experience of the Absolute such a contrast-effect is, by hypothesis, impossible; therefore selfhood cannot be predicated of the Absolute.

If the conclusions of the present discussion are correct, this argument is vicious. The fallacy involved in the argument as stated above is the fallacy of four terms. The major term changes its meaning from its premise to its appearance in the conclusion. All that the argument really proves is that the 'sense of self' is lacking in the Absolute; but the sense of self cannot be identified with selfhood. Prof. Taylor might object that the sense of self,

this feeling of opposition, is essential to selfhood. But this is not self-evident, and so must be argued; certainly it cannot be assumed as the basis of the argument unless it itself is clearly established. And, so far as Prof. Taylor's argument is concerned, it does not seem to be established. A few pages preceding the above quotation he does point out that awareness of self as opposed to something else is possible only where this contrast-effect is experienced. But this does not go to the root of the problem, which is, as I understand it, the logical one of the *nature of the self*, and not the psychological one of the *origin and development of the awareness of self* as it may be contrasted with something else. In a word, the difficulty in the argument is the identification of what we have seen above to be distinct, namely, consciousness of self and self-consciousness. We must agree with Prof. Taylor that "the self implies, and has no existence apart from, a not-self"; and we also agree that "it is only in contrast with the not-self that it is aware of itself as a self" (p. 336). And we must agree, further, that such a contrast is impossible in the experience of the Absolute. But admitting so much, we are not reduced to the position that selfhood, or self-consciousness, cannot be predicated of the Absolute. Our conclusion would be simply that the Absolute, as a Self, is impossible apart from its relation to an Other; and that between itself and its Other there is no contrast or opposition.

But, one objects, could the Absolute possess an Other (as it unquestionably must if it is self-conscious) and yet at the same time not oppose itself to this Other? Could the Other be there without the contrast-effect being there? And if the contrast-effect is there, would not the Absolute thereby be necessarily limited? This objection indicates the crux of the whole matter. In order to settle the point, we must ask whether it is characteristic of self-consciousness thus abstractly to oppose the self and the not-self. The analysis which we have above undertaken seems unmistakably to indicate that in true self-consciousness this abstract opposition between self and Other is lacking; the more significant the self-consciousness, the less the contrast-effect. The truly self-conscious individual is he in whose experience, full and rich though it be, there is the least awareness of self as contrasted with something else. In other words, self-consciousness, though it unquestionably implies an Other, looks upon that Other as its own very self, bone of its bone, and flesh of its flesh; opposition between the two is a hindrance, not a help.[1]

Our conclusion, then, is that self-consciousness is completely realised only in the experience of the Absolute. So far from its being true that the category is not applicable to the Absolute, we are compelled to say that it is only in the Absolute that the cate-

[1] In connexion with this point I may be permitted to call attention to what I have said elsewhere about it. See *Thought and Reality in Hegel's System*, chap. v., especially pp. 138 ff.

gory is fully and completely expressed. For it is only the experience of the Absolute in which there is no unresolvable element, in which the self and its Other are wholly unified (*but not identified*), and from which all alienation has disappeared. In human experience self-consciousness is being progressively realised as individuality is developed and intensified: only in the experience of the Absolute, if such experience there be, does the category find its full fruition.

G. W. Cunningham.

TRUTH AS VALUE AND THE VALUE OF TRUTH.

THE substance of Mr. Quick's article on "The Humanist Theory of Value," in No. 74 of this journal, is to maintain against Pragmatism the proposition, that "To define truth as value is to destroy the value of truth". To be more specific, Mr. Quick's proposition is, "Many of our beliefs only have value for our lives in so far as they are held to be other than valuations, and the truth which they claim other than value; in particular is this true of religious and historical beliefs" (p. 222).

Mr. Quick has drawn the issue between pragmatism and its opponents to a focal point, that of the relation of truth to value.

Mr. Quick maintains that an idea must first be true in order to possess that sort of value in which the pragmatist finds the truth of the idea. Mr. Quick's contention is that the truth of an idea must itself be something which is other than value in order to possess any value. The pragmatist holds that a certain value of an idea is all that we can properly mean by its truth. The pragmatist maintains that truth is an abstract and general name for values of a particular sort.

Such, it appears to me, is the issue between Mr. Quick and what he calls "The Humanist Theory of Value". Now, I am unable to see that Mr. Quick has made good his main contention, which is, that "To define truth as value is to destroy the value of truth". So far, it seems to me, he has failed to meet the challenge of the pragmatist, that he define what this something, other than value, in which lies the essence of a true idea, really is. I cannot see that Mr. Quick has advanced in his discussion a step beyond the mere assertion of the matter he must prove against the doctrine, that truth *is* value. Mr. Quick has made admirably clear the point in dispute; but I am unable to see what he has brought forth which tends to disprove the pragmatist's meaning of truth. If Mr. Quick is to maintain his proposition, that, unless the truth of an idea is other than value, that idea cannot *have* value, he is, I think, bound to state in terms that are concrete, what this something other than value really is. Does Mr. Quick mean to content himself with the definition of truth as the agreement or correspondence between the idea and its object—or reality? If so, he must meet the challenge for—definite—and concrete terms of definition as most intellectualists do, namely, by saying, "agreement or correspondence between

idea and its object, are ultimate terms, incapable of, and not in need of, further analysis". But if he elects to make this reply, it would be interesting to know what he would say in answer to the further question, "How can you define the difference between a true idea and a false idea?" The pragmatist is quite willing to accept the proposition that truth implies or involves—a relation between an idea and reality which of course is other than that idea; but, when he is told that this relation is one of agreement, correspondence, or that the object is *as* it is thought,—or as it is asserted to be, he objects that this sort of definition leaves us in mere general and abstract notions. It seems to him that it is entirely proper and quite important to ask, what is it for an idea to agree with or to correspond to—objective reality? How does the idea manage to get into this ineffable relation? Now, I think, the crux of the anti-pragmatist's position is just here,—in his attempt to overcome the difficulty in which he is involved, when he squarely meets the counter challenge of the pragmatist for clear, consistent and really intelligible definition of a true idea. The readers of this journal are too well acquainted with the pragmatist's meaning of a true idea to justify any further exposition of that part of the pragmatist's doctrine.

The pragmatist reduces the relation of an idea to objective reality to terms that are wholly concrete and verifiable in experience. He teaches that the truth of an idea consists in the value of that idea in so guiding and controlling experience as to bring us into direct, experiential relation with the particular object or part of the real world he may be seeking to know and practically to possess. This functional value of an idea is what we mean by its truth. Truth, then, is a species of value. The pragmatist can as consistently recognise other species of value than cognition or truth-value, as can the anti-pragmatist. Emotional, æsthetic, religious, ethical values attach to ideas as well as truth-value; and it is no more difficult for the pragmatist to discriminate between these different values than it is for the rejecter of the value-theory of truth.

John E. Russell.

A POINT IN FORMAL LOGIC.

In most text-books on Formal Logic we find it stated that when the hypothetical argument is expressed in categorical form the fallacy of denying the antecedent is equivalent to Illicit Major, and that of affirming the consequent to Undistributed Major.

The majority of such text-books also admit that hypothetical propositions can be negative, *i.e.* can have quality, although not quantity.

The point I wish to make is, that the rule above stated only holds when the hypothetical major premiss is *affirmative*. When it is *negative* it obviously is inapplicable, and both the fallacy of denying the antecedent and of affirming the consequent are equivalent (when reduced to categorical form) to two negative premisses.

Thus Dr. Mellone in his admirable text-book (p. 217, 2nd edition) gives the hypothetical argument (with a negative major) :—

"If S is P, Q is not R; Q is R; ∴ S is not P".

This he reduces rightly enough to categorical form :—

"No case of S being P is a case of Q being R;
This is a case of Q being R;
Therefore this is not a case of S being P".

Let us substitute X, Y, and Z for the terms of this syllogism, then we get :—

No X is Y;
Z is Y;
∴ Z is not X.

Now obviously this argument when its antecedent is denied or its consequent affirmed can never yield either Illicit Major or Undistributed Middle, since the major and middle terms are necessarily distributed in the major premiss—an E proposition.

Let us deny the antecedent here. Then we get :—

No X is Y;
Z is not X;

which gives us two negative premisses. The same thing happens on affirming the consequent :—

No X is Y,
Z is not Y (= Z is a case of Q not being R).

Of course one can escape this by treating "Q is not R" as a term in an affirmative proposition. But this can only be done when one denies quality to hypothetical propositions and manipu-

lates them in an unnatural fashion. Now since modern text-books don't do this as a rule, it seems that obscurity would be avoided by saying in future: "When expressed in categorical form the fallacy of denying the antecedent and of affirming the consequent in a hypothetical argument is equivalent respectively to Illicit Major and Undistributed Middle, when the hypothetical major premiss is *affirmative;* when it is *negative* both fallacies are equivalent to 'two negative premisses'".

To sum up, then, my point is that text-books on formal logic, while admitting that hypothetical propositions have quality, do not seem to have worked out fully the implications of this fact in hypothetical arguments.

T. B. Muller.

VI.—CRITICAL NOTICES.

The Philosophical Works of Descartes. Rendered into English by E. S. Haldane, LL.D., and G. R. T. Ross, M.A., D.Phil. In Two Volumes. Volume I. Cambridge University Press, 1911, pp. vi, 452.

The present volume is announced in the Preface as intended to place before English readers "all the philosophical works of Descartes which were originally intended for publication". Unfortunately, this promise of completeness is violated in the volume itself. Were it only as a matter of historical interest, the English reader might well desire a complete version of the *Principia Philosophiae*, the work which, more than any other, gives the measure of Descartes' weakness as well as of his strength, and makes it possible to understand the attitude of eighteenth-century Newtonian writers such as Voltaire towards the most illustrious of French thinkers. Yet, for some unexplained reason, the translators, whose Preface promises completeness, have seen fit to present the "English reader" with only such sections of the *Principia* as had already been more faithfully rendered by the late Prof. Veitch, *i.e.*, the metaphysical sections which recapitulate the argument of the *Meditationes*, and the account of the senses with which the work ends. Of the really physical part of Descartes' theory, the *tourbillons*, the ingeniously disguised Copernican astronomy, the doctrine of the three kinds of particles, the unfortunate reader is left to learn what he can from a mere list of section-headings, itself far from strict faithfulness. Such an omission forces one to doubt whether the remainder of the work will come any nearer to completion. We are promised a complete version of the *Objectiones* to the *Meditations* with Descartes' replies, and this, so far as it goes, is a good point, since even the popularly current French editions often cut down this most important material to a few pages of incorrect abridgment in which the real point both of an objection and of the author's answer to it is frequently misunderstood. But I do not by any means feel sure that it is contemplated to offer versions of the *Géometrie* and the other essays published along with the *Method*. I should like to suggest that the omission of the *Géometrie*, at any rate, would be a capital fault. It is in many ways the best and most original of all the author's works; it is historically im-

portant as the first exposition of analytical Geometry, and as presenting the methods still in use for the solution of cubic and biquadratic equations, and it is the only place where the famous *Method* can be adequately studied, because it is the only treatise in which it may be seen in work upon a material of which the writer was a master. I, for one, should find it in my heart to pardon our translators for many faults of which I shall have to speak directly, if they can see their way to include in Vol. II. a decent version of this great and epoch-making work. The other two essays are, no doubt, of less importance, though it should never be forgotten that, as the frequent references to them in other treatises prove, Descartes regarded them as an integral and by no means negligible part of his *Philosophia*, and the *Dioptrique* has also the merit of stating clearly for the first time the fundamental law of refraction. It is from neglect of these and other unfinished or minor papers that the ordinary reader has come to form the totally false conception, popularised by Voltaire, of Descartes as a dogmatist who philosophised *à priori* at his own sweet will in contempt of facts.

To come now to the volume before us. It comprises versions of the following works: the *Regulae*, the *Méthode*, the *Meditationes*, the *Principia*, the unfinished dialogue, *Recherche de la Verité*, the *Passions de l'Âme*, the *Animadversiones* on the *Programma* of Regius. The first of these is signed by the initials G. R. T. R., all the rest bear the signature E. S. H. The merits of the book as a translation naturally enough vary in different parts; I should be inclined to rank the version of the *Passions de l'Âme*, in spite of certain strange blunders, highest, those of the *Regulae* and the attack on Regius perhaps lowest, though no part of the work is really what a standard English version of a great philosophical classic should be, and might have been made with more care and pains. The text chosen for translation is naturally that of the great Adam-Tannery edition, which is followed with such unnecessary care that more than once the conjectures of its editors have been adopted as against the *editiones principes* without any warning to the reader, even when they are by no means obviously required. This, however, is the least of the faults chargeable on the translators. A translation, it should be remembered, is meant in the first instance for readers who cannot habitually consult the original. Hence it should be as verbally faithful as the usages of language permit, and should never degenerate into comment or paraphrase. In particular, when one has to render a philosophical author who uses terms in a precise and technical sense, there should be a standing term in the version for each standing term in the text. A reader should, *e.g.*, not require to consult the Latin or French to discover whether, in a translation of Descartes, "simple" means *simplex* or *facilis*, whether "intellect" means *ingenium* or *mens* or *intellectus*, whether "to think" means *cogitare* or *percipere* or *intelligere*, whether "fact" stands for *res* or for *veritas*, what "perceive" or "clear" represents,—all examples

of ambiguity taken from the present work. In particular, it should always be remembered that Descartes had the logical terminology of the schools at his fingers' ends, and always used it instinctively with propriety. Hence he should never be credited with the vulgar abuse of language by which any passing state of a thing, or any quality which it happens to exhibit, is spoken of as a "property"; such words as "essence," "essentially," should never be foisted into his text when they are not there. *E.g.*, *necessario* should not be rendered, as our translators like to render it, by "essentially," since in strict accuracy there are many things which are necessary without being attributes pertaining to the "essentia" of a substance. Yet again, for two of the most important of Descartes' works, the *Meditationes* and the *Principia*, we have, besides the Latin originals, French versions made in the author's life-time, and with his approbation. Neither version is a translation made by strict rules. The translators have allowed themselves great freedom in expanding, contracting and changing the language of their originals; both, at times, add passages intended to explain a difficulty or to illustrate a general proposition, both also omit phrases which, occurring in a work not specially and exclusively addressed to the learned, might convey an impression of unorthodoxy; the version of the *Principia* does this so freely that in many sections it is rather an early Targum than a translation. It is therefore of the first moment to decide whether the Latin or the French should be taken as the basis of an English version. And it ought to be clear that the Latin should be preferred; Descartes' own words as he wrote them for the perusal of brother philosophers should have greater weight than any softened or paraphrastic alteration of them for popular circulation, even though the alterations are, in a general way, issued with his own approbation.

Now Miss Haldane professes to translate from the Latin, and to mark any interesting variations taken from the French versions by brackets. But any reader who will take the trouble to go through the English of the *Meditationes* sentence by sentence, along with the Latin of Descartes and the French of the Duc de Luynes, will find that in all but the most striking cases of difference, the English follows the French alike in small additions, small omissions, and usually in the very turn of the sentences. The case of the *Principia*, where the French is much less close to the Latin, is slightly different. Many of the additions, omissions and interwoven comments of the French are adopted in silence; others are passed over. The inevitable inference is that both translations rely so much on the French that they might almost as correctly have been described as made from it, with the Latin lying open as a book of reference, but mainly used merely to discover whether any whole clause has been added or taken away in the French. The description of either translation as made from the Latin in the sense in which Veitch's version is made from the Latin is quite misleading; the English of the *Medi-*

tationes is rather a close rendering of the French, with the omission of a few of its most obvious changes, that of the *Principia* renders neither the Latin nor the French, but represents a compromise made, on no discoverable principle, between the two.

I need hardly add that an English version of a style so neat and forcible as that of Descartes (both in French and Latin) ought to reproduce the qualities of its original. It ought to be terse, whereas that of this volume is often intolerably verbose, without any necessity, and it ought to be dignified and literary, whereas our translators habitually say "commence" when they mean "begin," and regularly use "alone" adverbially when they mean "only". They also show a deplorable fondness for the "journalerse" tricks of using slang, and introducing unhappy metaphors where their original is perfectly simple and dignified. Finally, they make not a few excellent "howlers".

This notice is already longer than I could wish, but I am, of course, bound to produce a few instances of the faults I have mentioned. To begin with Dr. Ross's *Regulae*, page 2, we read, "whenever two men come to opposite decisions about the same matter, one of them must certainly be wrong, and apparently there is not even one in the right," a denial of the Law of Contradiction. What Descartes says is mere common sense, "and not even one is *evidently* possessed of knowledge" (because if he *were*, he would be able to convince the other of his error). On page 5 (end of second paragraph), *facilis* is translated by *simple*, which ought to be kept for *simplex*. Page 6, *recte inventa* is rendered "what they have correctly made out," a fine specimen of verbiage; on the same page *numerare* is translated by the slang "to total up"; page 8, *iam dubium esse potest* is turned into the following verbiage: "Hence we are now in a position to raise the question as to why"; page 8, three lines from end, it should have been noted that *exsolvi* which the text translates is a conjecture of the Adam-Tannery edition for the corrupt *excoli* of the original text, and that Buchenau's *excolari* is possibly even better; page 14, last line, *temere* does not mean *readily* but *rashly*; page 16, *veritates* and *res* are both translated *facts*, without any hint that these are two very different words in the original; on the same page, *natura* is rendered first *essence* and then *nature*, elsewhere it is also translated *reality*; page 20, *perperam* does not mean "by mistake," but "through oversight"; page 24, to speak of a geometer as "*being on the track* of the anaclastic" is a slangy vulgarism which is not countenanced by Descartes' text; page 30, "if I move one end of a stick of whatever length *I easily form a notion of the power by which both that part of the stick and all its other parts are at the same moment necessarily moved*" is a hard saying created by a pure mistranslation of one of Descartes' favourite illustrations. What Descartes says is something quite different, "if I move one end of a stick . . . I easily understand *that* the force by which that part of the stick is

moved necessarily moves all the other parts," etc. Same page (at the end), Descartes does not say that his rules helped him in his inquiry, and were afterwards used by him to "resolve many difficulties," but that he used them *ad plures excogitandas*, to devise further *rules* (a "howler" arising from neglect of the concord of the adjective in gender with its noun). Page 32, I note the recurrent slang use of the collective "people" in the sense of "persons"; page 35 (statements of rule xii.), *componere*, when used of simple propositions, means to *conjoin*, *complicate*, not "to *compare*"; page 36, *quaenam ex quibusnam colliguntur* does not mean "the precise fact with which each conclusion is connected" (if the English really means anything at all), but "what (*truths*) are inferable from what"; page 40, to speak of the "summaries" on which Descartes always lays such stress as "handy" is not English but American, and bad American at that; (the original has simply *commodiores*). Page 43, Descartes does not say that "many necessary propositions become contingent when connected," which is obviously absurd, but that they become so when *converted* (*conversae*). In Rule XIV. the sense is obscured throughout by failure to see that *aequalitas* means not a "uniformity" but an *equation*. Page 61, paragraph 2, *nihil aliud* does not mean "not precisely," but *nothing but*. Page 66, the second footnote, is without sense, whereas the meaning of Descartes is perfectly plain, *viz.*, that a line incommensurable with our (assumed) unit of length cannot be symbolised by a row of points; page 70, in the description of the formation of an equation, *aequalem* means *equal*, not uniform. Indeed, it is not clear what Dr. Ross imagined himself to mean by making "a total magnitude uniform with a certain known magnitude".

I turn now to the translations initialled by Miss Haldane. For the sake of brevity, I will only mention one or two of the worst mistakes in the *Meditationes* and *Principia*, adding to them some further examples from the attack on Regius and from that part of the *Recherche de la Verité* which only exists in a Latin version. I will, however, remark that it is scandalous that two such technical words of Cartesian philosophy as "idea" and "think" should have been used freely to translate other originals than *idea* and *cogitare* (*e.g.*, *notio*, *conceptus*), and that "perceive" should frequently stand not only for *percipere*, but for *intelligere*, and even *sentire*. Page 134: It was not Leo X., but the fifth Lateran Council which enjoined philosophers to refute the theory that the existence of God and the immortality of the soul are mere matters of faith, as Descartes correctly says, and his translator ought to have known. So I must warn the reader that the alternative vel—vel, in the sense of *either—or*, *if you prefer it*, is regularly translated as if it were *aut—aut*, *either . . . or else* (*but not both*), often to the great detriment of the philosopher's meaning. So I must object to the vulgarism by which *extra mentem*, etc., is repeatedly rendered "outside *of* the mind," etc. In the West a man is said to

"put himself outside of" his dinner, but would Miss Haldane care to say that a man's purse was "inside *of*" his pocket?

Page 165, we read "there remains *alone* [the correct English would be *only*] the idea of God concerning which we must consider *whether it is not something* that is capable of proceeding from me myself". The structure of the English sentence emphatically anticipates the answer, Yes, it is. But the Latin is *an aliquid sit quod a me ipso non potuerit profisci*, "whether it is something which *cannot* have proceeded from myself," and the French is to the same effect. The negative answer which Descartes means to give is rightly prefigured in the form of the question. Page 170, "without having caused me in some measure to know what they are," Latin, *nisi simul effecerit ut quaenam illae essent cognoscerem;* French, *sans avoir fait en sorte en même temps que je susse ce qu'elles étaient.* The "in some measure" of the English has nothing to represent it in the original, and has been interpolated here from a further clause which the Duc de Luynes has added to Descartes' Latin. Page 176, paragraph 2, the translation makes Descartes doubt whether "any world existed"; what he really allowed himself to doubt was *an aliquid in mundo existeret*, or as the Duc de Luynes puts it, *si quelque chose existait dans le monde.* Page 188, hunger is oddly called an "*emotion* of the stomach". This is from the French, but the translator seems not to be aware that *émotion* is a wider term than our "emotion". The Latin, from which she is professedly making her version, has the formally correct *vellicatio.* Page 194, the translation makes Descartes say that there is no more reason to suppose that there is really in fire anything like the sensation of heat than to suppose that "there is in the pain something resembling it". This is, of course, meaningless. What the author says is that there is no more reason for supposing the heat we feel to be "in" the fire (as the scholastic doctrine does) than for supposing the pain of the burn to be also in the fire (as the scholastic doctrine does not), *nulla profecto ratio est quae suadeat in igne aliquid esse simile isti calori, ut neque etiam isti dolori.* Page 198, second paragraph, drinking when we are thirsty is said to be "essential" to health; Descartes, who used scholastic language with propriety, knew, of course, that health is not a *substantia* and therefore has no *essentia; he* says with strict accuracy that the drinking is "conducive" to health. Page 210 (translation of the Letter to the Reader prefixed by Descartes to the French version of the *Principia*), we have a striking example of a standing blunder of the translator,—ignorance of the true English equivalent of the expression *je voudrais* followed by the infinitive; *je voudrais ici expliquer* does not mean "I would like here to have explained" (which, in fact, is not English for anything at all), but "I wish I could explain here". Throughout the whole first division of the *Principia* the carelessness about the rendering of technical terms is at its height; *idea* stands now for *idea*, again for

conceptus, again for *notio; know* sometimes means *cognoscere*, sometimes *percipere*, while *perceive* may stand for *percipere* or *intelligere* or even *sentire*. To give a few examples of actual mistranslations. We read on page 234 (*Pr.* i. 38) that "the faults of these subjects may often be attributed to other masters, but never God". It is not clear what Miss Haldane intends. The "these" should naturally identify the "subjects" with our "modes of action," which have been referred to above, but it would be hard to say to what "masters" these defects may be "often" attributed. The fact is that "these" is a pure interpolation of the English translator; what Descartes says is simply that the misconduct or failure of a subordinate is often not his own fault but that of a sovereign or superior who gives an improper order, but that this does not hold good when the superior is God, the *ens summe perfectum*. Page 238 (i. 48), "divisibility of things into parts of themselves" is said, oddly enough, to be a proprium of *res extensae*. If Descartes had meant this, he would have spoken simply of "divisibility into parts," without the tautology of his translator; what he does speak of is *partium ipsarum divisibilitas, i.e.* (divisibility into) parts which are themselves divisible, that is, *divisibility in indefinitum*. Page 239 (i. 51), "When we conceive of substance we merely conceive an existent thing which requires nothing but itself in order to exist. To speak truth, nothing but God answers to this description, as being that which is absolutely self-sustaining, for we perceive that there is no other created thing [*sic*] which can exist without being sustained by His power." This is an excellent instance of the way in which the translator follows and outdoes the French in replacing accurate statement by loose paraphrase. The correct translation is "by substance we can understand nothing else but a thing which exists so that it needs no other thing for its existence. And, in fact, only one single substance can be understood which needs absolutely nothing else, *viz.*, God. All other things we perceive to exist only in virtue of the concursus of God." Page 241 (i. 55), "*How we can also have a clear understanding of duration, order, and number*. We shall likewise have a very different understanding of *duration, order*, and *number* if, etc." Here one and the same word *distincté* is mistranslated twice. In the *lemma* it is represented by "clear," though Descartes always distinguishes the clearness of a perception from its distinctness; in the proposition itself, it is represented, perhaps from pure carelessness in proof-reading, by the nonsensical "different". Page 248 (i. 69), we get "the body which is perceived" for *corpus visibile*, number is, without any warrant in the text, made a "property of body," though the third *Meditation* makes it plain that number is no more a proprium of body for Descartes than it is for Locke. Page 256 (ii. 5), "if whenever we moved our hands in some direction, all the bodies in that part retreated *as soon as* our hands approached them"; this represents the *aussi vite* of the French

version; the Latin is much more precise, *eadem celeritate*, "with the same velocity". Thus we have absolute proof that here at any rate the Latin text has *not* been taken as the basis of the translation. Page 258 (ii. 9), "but [so improperly] that it is easy to see," etc.; Latin *atque ita*, "*and thus* it is easy to see". Page 264 (ii. 21), "We likewise recognise that this world, or corporeal substance *in a universal sense*, is extended without limit"; Latin, *sive substantiae corporeae universitatem*, "this world, or *total aggregate* of bodily substance". Page 268 (ii. 58), "That if any particles of a fluid are more slowly moved than a hard body existing in it, *that does not hold good in this part of the fluid*". In the English this sentence has no intelligible sense. The original is perfectly clear, "That if any particles of a fluid move more slowly than a hard body contained therein, the fluid does not behave as a fluid in that part" (*illud hac in parte fluidi rationem non habere*). Page 271 (iii. 9), "That the light of the sun and fixed stars shine by their own light". Descartes is chargeable neither with the false grammar nor with the illogical tautology of this sentence. Page 273 (iii. 41), "That the distance of the fixed stars is requisite for the motion of the comets, as they *now appear* in our heavens". What Descartes says is "comets which are now agreed to be celestial bodies" ("quos iam *constat* esse in coelo"). The allusion, of course, is to the controversy, in which Galileo took the wrong side, whether comets should be regarded as "heavenly" bodies or merely as exhalations from the earth. As the clause is not represented in the French, the blunder about its meaning is entirely the translator's own. There is a similar blunder, due to ignorance of the meaning of *constat*, just below in the enunciation of iii. 45. Page 279 (iii. 153), "Why the moon . . . diverges less from its regular motion in conjunction than in quadrature". Descartes says *a suo motu medio*, "from its *mean* motion," which, unlike the English, has a definite mathematical sense. Page 281 (iv. 16, 19): In the enunciations of both these the conjunction *quod*, "that," is regularly mistaken for a relative and rendered by "which," though this gives the curious concord "*effectus quod*". In the enunciation of 18 a more complicated blunder is made about the "second" effect of the primary motion, *viz.*, *quod una corpora secernat ab aliis et liquores expurget*, "*that* it separates some bodies from others and purifies liquids". Miss Haldane renders "that one body (*una corpora!*) separates from *the* others, and purifies liquids". Thus we get *una corpora*, "one body," *aliis* in a sense which requires *caeteris*, and the "purifying" working of the "second effect" ascribed to the imaginary "one body"!

Page 262 (iv. 40), Descartes' proposition is falsified by the insertion of a negative which makes nonsense of it. Page 288 (iv. 183), "Why rust, dampness and *situation* also diminish them" (*viz.*, the powers of a magnet). If the translator had troubled to read the brief discussion which follows on this enunciation, she would have

seen that *situs*, when conjoined with *rubigo*, does not mean "situation," but "mouldiness".

Page 297 (iv. 201), "That *certain* sensible bodies are composed of insensible particles". Of course, the Cartesian doctrine is that *all* bodies are composed of insensible particles. The blunder is plainly due to careless reading of the *French* version of the *lemma*, "*qu'il est certain* que les corps sensibles sont composés de parties insensibles"; the Latin, though professedly the text translated, has not been consulted, since its form would have precluded the mistake, *dari particulas corporum insensibiles*. *Recherche de la Verité*. Page 309, "it is *no longer* the duty of an ordinary well-disposed man to know Greek and Latin any more than it is to know the languages of Switzerland or Brittany"; true version, of course, "it is *no more* the duty . . . than it is, etc.". Page 310, "in order that one should not allow one's judgment to be *beguiled into* admiration of an unknown thing," text, *prévenu par l'admiration*, "beguiled *by* wonder at". Page 311, "the immortality of the creatures and their state after *the consummation of centuries*"; *la consommation des siècles* means, of course, the "end of the ages," "the end of the world". Page 312, "who would *probably have to* employ all the rules of his art" (!); French, *aurait beau pratiquer toutes les règles*, "would find it in vain to employ". Page 322, "from which they *start forth*"; original, *in quod desinunt*. Page 323, "on the authority of precepts"; original, *praeceptorum auctoritate*, "on the authority of *preceptors*" (!).

The translation of the notes on the *Programma* of Regius do not give one a very high opinion of Miss Haldane's knowledge of Latin or fitness to translate from that language. I note only one or two of the worst errors. Page 433, Art. 11 of the *Programma*, "As mind is a substance and *in being born* is brought for the first time into existence, the most accurate opinion seems to be that of those who hold that the rational soul *was* brought forth by God *by* generation, etc." Here there are at least two bad errors, if not three. "In being born" completely misrepresents the Latin *generatione;* the opinion in question, which is that of official orthodoxy, is that the *anima rationalis* is created at the moment of *generation;* no one held that the fœtus has no "rational soul" until birth. Further, the tense in the next sentence "*was* brought forth," is wrong. Regius says *produci* in the present, because he is speaking of a process which takes place every hour; the translator seems to think he means something done once and for all at the beginning of the world. Last, "*by* generation" is wrong and amazingly heretical. It is only the Second Person of the Trinity who is produced from the Father *per* generationem; the "rational soul" of Peter or Paul is not *generated* but, according to the prevailing doctrine, which Regius means to uphold, *created* by God simultaneously with the generation of the corresponding body. So Regius correctly writes *per immediatem creationem a Deo in generatione produci.*

Page 437, last paragraph. The translation makes Descartes credit Regius with the following syllogism: "Whatever we can conceive can exist. But the mind is one of the aforesaid (*viz.*, a substance, or a mode of corporeal substance), because it can be conceived, . . . Ergo, etc.". The real syllogism imputed to Regius is, "Whatever we can conceive can be; but mind *can be conceived* as one of these things aforesaid . . . since no contradiction is implied. Ergo." Badly as Descartes thought of Regius, he did not, like Miss Haldane, suppose him capable of using the conclusion of an argument as also its minor premiss. Same page, higher up, we read of an "attribute of a thing which exists *by virtue of* that attribute," where the author is speaking of an attribute of something *quae potest absque illo subsistere.* Page 439, a whole sentence goes hopelessly wrong because the translator does not know, without a French forerunner, the logical meaning of *repugnat*, which she actually renders "he refutes," rendering (*quòd*) *unius et eiusdem rei essentiam, quam repugnat non eandem semper manere . . . supponat esse per naturam dubiam ac proinde mutabilem, i.e.* "in that he assumes that the essence of one and the same thing (which must be held to remain always self-same, if absurdity is to be avoided) may be by nature doubtful and consequently mutable," in the following way: "*though he refutes* the doctrine that the essence of one and the same thing does not always remain the same . . . *yet* he supposes that this essence, etc.". This it is to be *super grammaticam!*

Page 447, there is a curious little error when Descartes is made to speak of Regius as an incompetent "Physician,"—the Latin being *Doctor.* The translators have forgotten here as elsewhere that the Latin for "physician" is not *doctor* but *medicus.* Regius was, to be sure, a medical man, but when Descartes speaks of him as a *Doctor*, he means what Pope meant when he asked, "Who shall decide when Doctors disagree?"

Page 449, the use of "compile" to render *componere* shows that the translator, like so many who profess to write English now-a-days, does not know what "to compile" means, and is unaware that to "compile" a book is almost incompatible with "composing" it.

Ib. lower, "precautions which are observed by some other writers, but not by the Holy Spirit". Descartes was hardly the man to talk quite so jauntily as this of the Holy Spirit "and other writers". What he does say is "precautions which have *never* been observed by any other writers (*i.e.*, than myself), nor even by the Holy Spirit Himself".

On the whole, while I cannot regard the new version of Descartes as comparable with that of Veitch in the ground which is common to both, the rendering of the *Passions de l'Âme*, which, though so highly important, has long been virtually inaccessible to the merely English reader, is, in my opinion, far the most satisfactory part of the book, and freer from mistakes, presumably because the translator

knows more of French than of Latin. Yet even here, it is a deadly fault that *volonté* and *désir*, which are always carefully discriminated in the French, have been hopelessly confused in the translation by wantonly translating *volonté* at random "will," "volition," "desire". So the persistent rendering of *sentir* by "perceive" makes nonsense of the whole Cartesian doctrine of sensation. On page 354, there is a singular "howler" when we are told of certain persons that "they never cause their will to do battle with its proper arms, but only with those which furnish it with certain passions". Of course the last clause ought to be "those with which certain passions furnish it"; the translator has confused the objective case *que* of the relative with the nominative *qui*. Page 368, *un particulier* does not mean "a particular man," but "a *private* man"; Louis XIII. was as much a "particular man" as Descartes, but he was not *un particulier*. Page 376, *rechercher la richesse* does not mean "to investigate riches"; if it did, the statement of Descartes that *en recherchant la richesse*, "we necessarily shun poverty," should imply that all Professors of Economics are millionaires, which is known not to be the case. Page 376 (*Passions*, Art. 102), "the nerves of the sixth part" is an odd mistake for "of the sixth pair"; and page 378, "concoction" is both vulgar and inaccurate as an equivalent of *breuvage*. Page 383 (*Passions*, Art. 118), I do not know by what process *colère* has come to be translated *prayer*. Page 403 (*Passions*, Art. 156), *offensé* does not mean "harmed," but "insulted," "affronted". Page 409 (*Passions*, Art. 169), there is no sense in saying that a miser "desires never to be away from his treasure, *in case* he is robbed of it". Descartes says "for fear he may be robbed". If the translator intended to say it too, she has not succeeded. Page 415 (*Passions*, Art. 184), I do not know what the translator means by "battered blood"; Descartes' expression is *meurtri*, which appears simply to signify "livid". On the whole, I recommend the version of the *Passions*, though the confusion of *désir* and *volonté*, and again of *percevoir* and *sentir*, was a cruel trap to set for confiding readers.

A. E. Taylor.

Die logischen Grundlagen der exakten Wissenschaften. Von Dr. Paul Natorp. Pp. xx, 416. Leipzig and Berlin: B. G. Teubner, 1910. Price, bound in cloth, M. 6·60.

This is the twelfth volume of the series of books published by Messrs. Teubner under the name "Wissenschaft und Hypothese" —the title of the German translation of Poincaré's well-known work, which forms the first volume of the collection—and which is devoted to historical, critical, or wholly original expositions of various sciences, especial regard being paid to their foundations and methods, their aims and applications.

Prof. Natorp attempts to build up a philosophy of mathematics and mathematical physics. "The 'philosophy of nature,' which flourishes luxuriantly at the present time, can only be efficaciously opposed by a genuine philosophy, not of nature, but of natural science on a mathematical foundation, which takes from positive investigation no more than the questions, and furnishes by its own work the answers" (p. iv). This is the task of the "Marburg school" of philosophy, under the leadership of Hermann Cohen, and Prof. Natorp's book is written in the spirit of a disciple of this school, and abounds with references to the works which have proceeded from it.

Our views of these fundamental questions have been deeply modified by modern investigation, and Prof. Natorp's book, dealing as it does with the principles of logic and mathematics, number, infinity, continuity, dimensions, mathematical space and time, and the principles of mechanics and physics, accordingly takes into account these modern investigations by mathematicians and other scientific men to an extent which is unfortunately unusual in a philosophical work. But, though the index of literature (pp. xi-xx) is surprisingly full, yet we miss in it references to several other important works of Frege, Petzoldt, and Russell; the recent book of von Dantscher on Weierstrass's theory of irrational numbers should have been mentioned; and the fact that a second and augmented edition of Mach's *Erhaltung der Arbeit* was published at Leipzig in 1909 (that published at Prague in 1872 being out of print) might conveniently have been added.[1]

The first chapter contains an explanation of what is the problem of a logical foundation of the exact sciences. All exact sciences aim at proceeding logically, that is to say, at using only rigorously defined concepts and at proving what can be proved for them, but not that alone makes them into sciences of which logic is the only foundation. The decisive point is whether the fundamental conceptions of a science are offered by logic, and whether its fundamental propositions are contained in, or derivable from, the laws of logic, and not merely "logical" in some loose, general sense—that is to say, consistent and connected (pp. 1-2).

Now, that mathematics are logical, properly speaking, has been maintained by many philosophers, from Plato downwards, and, among modern mathematicians and logicians, by Grassmann, Frege,

[1] It must be remarked that too little attention is paid by Prof. Natorp to the work of the mathematical logicians, which he criticises so severely. Thus, the names of Peano and Pieri are not mentioned in the whole book: Peano's work in mathematical logic is too well known to be referred to here at greater length; while Pieri is the author of one of the few published papers on the question of the fundamentals of logic, and such questions as those of their consistency and independence. The most complete part of Prof. Natorp's index of literature is that which relates to the papers—even review-articles—of such philosophers as Cassirer, Cohen, Görland, and Natorp.

Dedekind, Russell, and Couturat. On the other hand, Kantians and neo-Kantians maintain that there is a non-logical element in the foundations of mathematics. But both schools of thought are alike in considering the character of mathematics to be purely *à priori*, and in rejecting the empiristic, psychological and nominalistic view held, for example, by Helmholtz and Kronecker.

Prof. Natorp also undertakes a purely logical founding of mathematics, and thus maintains its apriority, but in another sense to that of those just named. His philosophy "borrows the last presuppositions of Kant's critique of knowledge, without maintaining the distinction of pure intuition and pure thought in the same sense as this critique. But this single deviation necessitates a thorough variation in the disposing of the fundamental epistemological concepts" (p. 3).

The thesis, of Russell and Couturat in particular, of the identity, in essentials, of logic and pure mathematics,[1] is found fault with on the ground that, in this view, logic is a deductive science analogous to algebra, and the establishment of the laws of the deductive method and the justification of the necessary and general validity required by it cannot be effected by the method itself (p. 5). And, on p. 6, Prof. Natorp exposes what he considers to be the error of those for whom symbolic logic is fundamental, by the following account of the process of deduction they follow: "At the head of things are put definitions, which expressly only denote conventions about the use of certain symbols, and not judgments which are necessarily true or false. Then fundamental propositions with respect to these symbols are formulated . . . ; and these prescriptions too cannot be judgments. . . . Then we calculate, according to these prescriptions . . . , and mechanically 'draw' conclusions." Prof. Natorp rightly calls this method formalistic, and, on p. 8, mistakes a passage in Couturat[2] to mean that something like that is the method followed by mathematical logicians.

But mathematical logicians do not think that they can justify the principles of logic deductively, and do not, of course, attempt the task of beginning with definitions. They begin with primitive ideas and such primitive propositions as are necessary to make deduction

[1] On p. 4, Hilbert's remark, that formal logic presupposes something arithmetical, is referred to with approval. But this opinion is due to defects in language, and is of the same nature as the opinion—which cannot be held by a symbolic logician—that the idea of what is called a "one-one relation" presupposes the number "one".

[2] Couturat, *Les Principes des Mathématiques*, Paris, 1905, p. 37. Couturat here states that, formally, we can regard the primitive notions as mere symbols occurring in certain ways fixed, or partially fixed, by the expressions of the primitive propositions. Obviously all depends on the word *formally*, by which Couturat means: "if we consider the merely mechanical aspect of reasoning," and not "from the point of view of (formal) logic".

possible.[1] But we must not insist too much on what may be merely a carelessness, for, on the next page, Prof. Natorp describes as the traditional scheme of the Aristotelian logic, to which symbolic logicians hold with dogmatic prejudice, "defining up to certain indefinable concepts, proving up to certain unprovable propositions" (p. 7). And these primitive ideas are, according to Prof. Natorp (p. 8), considered by modern symbolic logicians as mere symbols, and the primitive propositions as embodying rules for 'calculating' with them. Such a view would be only another form of the nominalistic theory too common among mathematicians such as Helmholtz, Kronecker, Pringsheim, Stolz, Thomae, and Schubert, who have shown no particular acquaintanceship with logic; and one would think the fact, mentioned by Prof. Natorp on p. 3, that Frege has been most active in combating this kind of formalism, would rouse anyone's suspicions that such an error is not committed in the works of the modern founders of mathematical logic. And consequently we cannot agree with Prof. Natorp's depreciation (pp. 8-11, 18-21) of the "analytic" (in the narrow Kantian sense) function of thought. We agree that logic is necessary to found and justify the deductive processes of mathematics; but we deny that *this* logic is not included in what is called symbolic or mathematical logic, and hence we deny that symbolic logic is wholly concerned with purely mechanical processes, in which the understanding has no place.

It is, says Prof. Natorp, the operation of synthesis which is primitive; knowledge is an infinite process; to 'understand' is not to come to rest with one's thoughts, but to set every apparent state of rest again into motion; the method, the process is everything; the "factum" of science is the "fieri"; and so on (*cf.* p. 14).

This conception of thought as motion (*cf.* p. 42) may, it seems to me, arise from either of two causes. In the first place, there may be a confusion between psychology and logic: we may be so impressed with the fact that the discovery of truth is gradual, unresting, and continuous, that we conclude unjustly that the truth discovered is in a fluid state. In the second place, we may think, like Bergson and Mr. H. G. Wells, that our thought, as expressed in our logic, is, because of its essential discreteness, inadequate to the assimilation and reproduction of the essentially continuous nature of reality. The first confusion does not seem to be fallen into by Prof. Natorp, for, on pp. 36 and 99, he clearly distinguishes the logical aspect from the psychological. So I think that Prof. Natorp, like Bergson and Mr. Wells, has not grasped one of the great results of modern mathematical logic, that, namely, familiarity with the theory of ordered infinite aggregates has robbed the statement that, say, a continuous curve is a series of points, of all paradox. What

[1] *Cf.* Whitehead and Russell, *Principia Mathematica*, vol. i., Cambridge, 1910, p. 94.

this failure ultimately leads to is a protest against the analysis of a propositional function like "it rains" into a class of propositions of the general form: "it rains at time t at the place (x, y, z)".

Prof. Natorp, then, has misunderstood mathematical logic both by thinking it nominalistic and by implying that it is, in its nature, discrete. It is true that he shows how we generate continuous series in mathematics, and says, somewhat inaccurately, that "the number is continuous" (p. 205); but this only brings out the inconsistency of modern logical results with Prof. Natorp's premises. And Prof. Natorp has unconsciously shown the impossibility of constructing a logical theory of mathematics without the help of symbolic logic. For, on pp. 114-115, he reiterates the opinion—also held by Hilbert—that numbers are presupposed in logic. In the same way, Prof. Natorp objects, on p. 120, that the definition (of Frege) of the unit-class presupposes the number 2, for the definition contains the words: "if a and b are members of the class, and $a = b$". Prof. Natorp is simply misled by a verbal form, as Couturat[1] acknowledges that he himself was before he was acquainted with mathematical logic.

We will next turn our attention to the third chapter, on number and calculation.

On pp. 117-123, Prof. Natorp criticises Frege's definitions of the phrases "a concept B has the number n". He does not notice, by the way, that Frege explicitly gave up these definitions, because they do not define "the number n" independently, and so we have no means of judging logically whether Julius Cæsar is a number or not. On p. 118 Prof. Natorp says inaccurately that Frege tries to "reduce the concept of unity to that of identity," and then mistakenly and triumphantly points out that here is a circle, because *numerical* identity is meant. Then again, on p. 120, he rashly concludes, as we have seen above, that to speak of "a and b" implies that we have assumed the notion of 2.

All of these mistakes, like the errors in such phrases as "the number is infinite" (p. 160), or continuous, or many-dimensional, arise from non-acquaintance with the symbolic or mathematical logic.

On p. 157, Prof. Natorp is wrong in stating that the commutative law is not irrelevant with cardinal numbers. With them, since cardinals do not depend on order, the commutative law is simply concerned with notation.

In the fourth chapter, on infinity and continuity, Prof. Natorp seems to me to go wrong in some purely mathematical directions.

What Paul du Bois-Reymond called "the Infinite" (U(f)) of a

[1] *Op. cit.*, pp. vii, 24, 26, 47-48. The same error of criticising mathematical logic by criticising its bad verbal translation has been made by Poincaré.

function f can, it seems, be (what has not been done) defined by the help of Russell's "principle of abstraction". For: f is "infinitarily equal to" g, $U(f) = U(g)$, states a proposition about a relation which is reflexive, symmetrical, and transitive,—"isoid" we may call it for shortness. The ordered aggregate of all such U's is an aggregate for which the axiom of Archimedes does not hold. This "axiom" is a provable *theorem* for the aggregate of real numbers.[1] Cantor's proof is referred to by Prof. Natorp on p. 169, but the important logical completion of this proof by Peano is not mentioned; and Prof. Natorp's own contribution, that Cantor's theorem is so evident as to require no proof, can hardly be taken seriously.

On p. 172, Prof. Natorp says that: "Cantor once remarked that his transfinite stands and falls with the irrational. In fact both problems are internally connected with one another. With both the problem of the infinitesimal is closely connected; all these problems are united in the fundamental motive of continuity which is common to them."

Such a remark as this is unilluminating without either a fuller explanation or a reference to one. Cantor's statement is in his *Zur Lehre vom Transfiniten*, Halle a. S., 1890, p. 35.[2] In a way, the transfinite ordinal numbers are analagous to finite irrational numbers; in both cases they are the least numbers which are greater than certain actually infinite aggregates of numbers.

That part (pp. 172-193) of the fourth chapter (on infinity and continuity) that deals with irrational numbers appears to me to be, in spite of some errors, the best part of the book. For Prof. Natorp has correctly grasped the fact that we must prove what mathematicians call the "existence"[3] of irrational numbers, and has pointed out—what has escaped the notice of almost everybody—the great merits, in this respect, of the theories of Weierstrass and Pasch. But the errors and deficiencies must not be passed over.

When describing, on p. 174, how the introduction of infinite, non-periodic decimal fractions leads to the conceiving of new, non-rational numbers, there is inaccuracy of expression. If, says Prof. Natorp, no rational limit exists, "it is yet possible, in so far as the series is subject to a definite law, to express the required limit (which does not exist among the rational numbers) as nearly as we wish,

[1] *Cf.* Cantor, *Math. Ann.*, vol. xxi., 1883, p. 552; *Zur Lehre vom Transfiniten*, Halle a. S., 1890, pp. 50-53; *Math. Ann.*, vol. xlvi., 1895, pp. 500-501; Schönflies, *Encykl. der math. Wiss.*, i., 1, pp. 203-205; Pringsheim, *ibid.*, p. 70; Russell, *Principles of Mathematics*, Cambridge, 1903, pp. 334-337.

[2] *Cf. ibid.*, pp. 48-49, 54. *Cf.* also Cantor, *Math. Ann.*, vol. xlvi., 1895, pp. 508-510; Russell, *op. cit.*, p. 283, second note.

[3] It would be better to use some other word, such as "being" or "entity" for this, because "existence" is also used by mathematicians and symbolic logicians as an attribute for a class which is not null. A member of a class, which is not itself a class, ought not, then, to be said to "exist". *Cf. Monist*, Jan., 1910, vol. xx., pp. 113-114.

by rational values". It should be emphasised that the existence of a number which is not rational but can be approximated by rational numbers is silently postulated in this. Of course, one can, as Kronecker did, regard an infinite series which is said to have an irrational sum as merely the datum of a process for finding an infinity of rationals which solve some given problem more and more approximately; but, if we are to regard the series as determining one number, which solves the problem exactly, we must, it seems, postulate. Now, the more or less successful attempts to define irrationals in such a way that their existence need not be postulated, is the object of the modern theories of irrational number. Prof. Natorp has seen that this is the main point, and his criticism on Dedekind (pp. 178-179), and his perception that the theories of Weierstrass and Pasch[1] fulfil the requirement[2] (p. 182), are excellent.

But when, on p. 182, Prof. Natorp speaks of Weierstrass and Cantor using "the convergent series itself as a mathematical object which is as definite as the rational numbers" and implies that Heine also had this object, he makes two errors and one obscurity. First, as to the obscurity: the word "convergent" is usually applied to such series as we know to have a limit. It is obviously not so here; and we may, as Prof. Natorp ought to have pointed out, define the "convergence" of a series in a way which can, when we have defined our real numbers, be proved to be equivalent to the other way, without presuming the existence of a limit. If we do not define "convergence" in a way which does not depend on this presumption, it is an obvious circle to define irrational numbers as in any way defined by convergent series; and it was the avoidance of this very frequent logical error that seems[3] to have been the leading motive in Weierstrass's theory. This logical error is avoided by all the modern theories, whether they define satisfactorily the real numbers or not; and we may remark, by the way, that neither Frege nor Russell have given the advancers of these theories due credit for this.

I come now to the two errors: Cantor did not define, as Weierstrass did, a real number *as* a certain class of rational numbers, but simply said (as Dedekind did in another form) that it is "defined by" this class; and, for Heine, real numbers were merely signs, and not classes. Cantor, indeed, seems to have combined the opinions that real numbers are signs, and that it is absurd to say that integers are.[4]

There is one point about the definition of numbers as classes on

[1] Here Prof. Natorp might, with advantage, have referred to the views of Weber and Peano.

[2] He does not mention the theories of Frege and Russell, which also fulfil this requirement.

[3] Cantor, *Math. Ann.*, vol. xxi., 1883, p. 566.

[4] *Cf. Math. Ann.*, vol. xxi., pp. 589-590; *Zur Lehre vom Transfiniten*, pp. 16-17.

which it is important to be quite clear. If a number is defined as a class, if we can point out a member of that class, we have proved the "existence" of the class; and Russell[1] made a special point of having proved the existence of various numbers, types, and classes of spaces. But progress (since 1903) in the treatment of the paradoxes which appear in the theory of aggregates gradually revealed the fact that this sense of the word "existence" is only a part of what mathematicians mean by that word. I hope to develop this question more fully on another occasion, and will only remark here that what is important for the mathematician is not the *existence* (the being a not-null class) of a number, but its *entity*.

Prof. Natorp deals at some length with Veronese and (p. 22) blames Russell for not paying sufficient attention to his work. But Russell's and many other people's grounds for so acting are quite clear. Veronese retrogresses in *postulating* (p. 183) irrationals, and is wrong in regarding "Archimedes's axiom" as not a provable proposition in the domain of real numbers.

In the note on pp. 221-222 is a reply to Russell's criticisms, in his *Principles of Mathematics*, of Cohen.

The fifth and sixth chapters are on dimensions, time and space, and the seventh and last chapter, on the mathematical principles of natural science, seems to me to contain much that is good. There is some good work, for example, in refutation of empiristical views on the impossibility of absolute position; but Russell's contributions, in MIND and elsewhere, are wholly ignored.[2]

On p. 381, Prof. Natorp states that Hamilton's principle is "*das wichtigste und weitesttragende*" of the integral principles of mechanics, and, to support this view, quotes Mach on p. 382. But, since Mach wrote the sentences referred to, the mathematical investigation of principles which depend upon the variation of an integral has, thanks principally to the work of Hölder, made some progress. It is now known[3] that there is a whole class of such principles, which includes Hamilton's principle and the principle of Least Action in its generalised form as special cases, and all these principles are equivalent to d'Alembert's principle. The only advantage that Hamilton's principle has over the others is a purely technical one: the process of variation is a somewhat simpler one.

And a further remark should be made: Gauss's principle of least constraint in its widest form embraces cases where the conditions

[1] *Principles of Mathematics*, pp. ix, 497-498, etc.

[2] In this connexion, I may, perhaps, be allowed to refer to the notes which I have added to a translation of Mach's *Conservation of Energy*, just published (Chicago, 1911), in which fairly complete literature-references are given.

[3] See Voss, *Encykl. der math. Wiss.*, iv., 1 (1901), pp. 88-97; Ostwald's *Klassiker der exakten Wiss.*, Heft 167; and Jourdain, *Math. Ann.*, vol. lxv., 1908, pp. 513-517.

are given by *inequalities* and not merely by *equations*, and so applies more generally than d'Alembert's or Hamilton's principle.[1]

On p. 382, Prof. Natorp quotes with approval the proof of Schütz that, from the energy-principle, supposed to hold if the system is given a constant motion in space, Newton's laws can be derived. But he does not mention that, according to Voss's criticism,[2] Schütz's method only proves the equivalence of the "absolute principle of energy" and Newton's laws in the case where the system reduces to *one* material point.

I have confined myself, perhaps too much, to those points which appear to me mistaken, and have not insisted on the undoubted good features of the book. Prof. Natorp has just the merits one would expect in a philosopher writing on mathematics: he has neither the mere mathematician's tendency to nominalism, nor his inability to distinguish between the integer 2 and the rational and real number also denoted by 2 (*cf.* pp. 129-130, 140-143).

The book is well printed and strongly bound.

PHILIP E. B. JOURDAIN.

The Philosophy of Bergson. By A. D. LINDSAY. J. M. Dent & Sons, 1911. Pp. viii, 247.

THERE is a danger, Mr. Lindsay thinks, that the very brilliance and charm of Bergson's writing may be a hindrance to the appreciation of him as a philosopher, and he has accordingly given us a study of his philosophy which endeavours to show its unity and systematic nature, and particularly its connexion with the historical development of philosophy, more especially with the philosophy of Kant. The result is a most valuable criticism and appreciation of Bergson's arguments as they throw light on the problems of modern philosophy. Mr. Lindsay has not attempted to give a detailed and complete presentation of Bergson's philosophy. He has not tried to possess his readers with that *globale* view which Bergson himself so values, the magnificent conception of the *élan vital*, into which the whole of existence is gathered together, and whose immense *poussée* has evolved individual lives. Mr. Lindsay's purpose is rather to lay bare the abstract problems that underlie the imagery, and to submit the reasoning to critical analysis. The fact that the philosophy emerges triumphant from the ordeal of such a test is the surest ground for prophesying its enduring influence. The book, therefore, is not an introduction to the philosophy of Bergson but a criticism of its principles and method.

The problem that we meet with in Bergson's philosophy is, Mr. Lindsay holds, essentially the problem of the Kantian philosophy.

[1] *Encykl. der math. Wiss.*, iv., 1, p. 86.

[2] *Ibid.*, p. 116. The problem of the energetical foundation of mechanics is dealt with on pp. 115-116.

It is the problem formulated by Kant in the *Prolegomena*, How is metaphysic possible? And the argument by which Bergson considers that he has reached the solution is strikingly analogous to the argument which led Kant to the negative conclusion. So much is Mr. Lindsay impressed with this analogy that he considers Bergson to have, in effect, directly continued the work of Kant and brought it to a satisfactory solution on the same lines, but by the consideration of facts practically unknown in Kant's time, namely, the biological and non-mathematical sciences. As the inquiry into the possibility of the mathematical sciences led Kant to a critique of the understanding, so the inquiry into the possibility of the biological sciences has led Bergson to a critique of intuition. Bergson has himself told us that he considers the greatest, and perhaps the only permanent, contribution of Kant to philosophy is his discovery of the only conditions on which a metaphysic is possible; but he added that it is not possible. It was because for Kant all science was mathematical, and because, as he clearly demonstrated, mathematics is valid only for phenomena and does not apply to things in themselves, that he was led to this negative conclusion. In so far as scientific means mathematical, Bergson agrees with this conclusion, but not with the corollary that psychology and biology to be scientific must be mathematical. Bergson has raised the same question with regard to these sciences that Kant raised with regard to the validity of the mathematical sciences but with a much more fruitful result. "How are psychology and biology possible? Only because knowledge is not exhausted in mathematical analysis, because over against the discursive understanding stands the more immediate intuitive knowledge." It is possible to have knowledge that is not mathematical, knowledge which is no longer symbolic but immediate, and this knowledge is metaphysic. There are two important points about this view of metaphysic which Mr. Lindsay is careful to notice and which differentiate it from metaphysic as Kant understood the term and criticised it. It is a metaphysic that is empirical, however contradictory that may sound, and it is developing and incomplete. It is knowledge of the absolute, but the absolute is not the idea of the whole, nor of the completed task of knowledge.

Mr. Lindsay's criticism of Bergson is therefore primarily a study and analysis of Kant. Valuable as such a study is, and particularly acute and penetrating as this is, it has a distinct disadvantage for the student of Bergson, inasmuch as it is likely to give the idea that the direct influence of Kant on Bergson is much greater than it really is. Nothing is more striking in Bergson than the grasp of the philosophical problem as a whole that seems to lie behind all that he writes, and the sympathy with which he sees that problem expressing itself in the great thinkers, ancient and modern. What seems, however, to have given the special direction to his own thought is the profound dissatisfaction he felt with the philosophical

attempts of our own time to deal with the new sciences of biology and psychology. Disappointment with Herbert Spencer, not study of Kant, has led to the philosophy of creative evolution.

There are, every one will admit, some very remarkable similarities between the theories of Kant and those of Bergson, but the contrasts are more remarkable than the resemblances. Each holds that in a certain sense it is the understanding that makes nature, but according to Kant the understanding gives unity to a manifold, combines what is in itself discrete, forms experience as the senses receive it by means of synthetic judgments *à priori*. For Bergson on the contrary the understanding cuts out of the living flux the lines of our action, articulates reality according to the requirements, the practical necessities of our activity. Indeed when we look at it closely the resemblance is little more than is involved in the fact that each has proposed a theory of knowledge, each has seen that a theory of knowledge must depend on a metaphysic, and that whereas Kant thought metaphysic as a positive knowledge unattainable, Bergson finds it in a theory of life. It is difficult to imagine that direct study of Kant, or that any direction indicated by Kant could have led to that discovery, rather the contrary, for the whole effect of the Kantian criticism is to emphasise the mathematical character of all science, notwithstanding the relativity of its validity, that is to say its limitation to phenomena.

The use of the Kantian terminology seems also rather to obscure than to elucidate the true direction of Bergson's thought. Thus Mr. Lindsay's second chapter is entitled "Exposition of Antinomies". The questions there treated are theories of the relation of quantity and quality, of the relation of mind and body, and of the mechanistic and teleological explanations of evolution, and they fall under three divisions, each dealing with the main problem of one of Bergson's three chief works, and described as a criticism. Now these questions are not 'antinomies' in the sense that Kant used the term and the method of their treatment is not 'criticism' in the strictly Kantian meaning of the word. An antinomy is a logical contradiction between two principles, both of which must be accepted, or between two conclusions, both drawn from premisses that must be allowed objective validity. An antinomy in Kant cannot be resolved but may be transcended. Kant held that there are certain objects of the reason concerning which contradictory propositions can be maintained, and that therefore speculative knowledge of them is impossible, but they cannot be denied for they are affirmed by the practical reason. For Kant, therefore, there are antinomies. For Hegel and Mr. Bradley there are antinomies everywhere, they are involved in the nature of discursive thought. But for Bergson there are no antinomies. We are placed at a point of view at which antinomies do not arise, and which itself explains the illusion that gives rise to them.

It is this point of view that is the one thing necessary for the

apprehension of Bergson's theory. Undoubtedly there is a very great problem and a very difficult problem in the relation of space and time in Bergson's exposition, and it is quite true that space is sometimes presented to us as having a reality distinct from the reality of time, at other times as a schema involved in the intellectual view of reality. It does at times seem that Bergson is affirming two spheres of reality,—consciousness where change and movement and quality are real, and space where only the simultaneous and the quantitative exist. At times he seems to be affirming the reality of the objects of experience with all the simple directness of a natural realist, at other times his theory seems indistinguishable from idealism. But this is due to the difficulty of expressing a philosophical theory in language, for language is only an intellectual instrument. What Bergson has done is to give us a point of view which supersedes the distinction out of which the theories of idealism and realism arise. It is either this or it is nothing. It is not a reconciliation of idealism and realism. Mr. Lindsay notwithstanding his thorough appreciation of the characteristic doctrines of Bergson yet presents them as dualistic conceptions and asks whether they are a rigid dualism? How are time and space reconciled? He can find no satisfactory solution. He admits that psychical facts are not external to one another and spatial, but interpenetrating, that the relation of mind and body must be expressed in terms of time not in terms of space, that in the sciences of life spatial terms are misleading and confusing and so also are scientific methods based on spatial experience, but over against these facts are the mathematical sciences which deal with a spatial reality that seems to him ultimately irreducible to the psychical. This at least is the impression that the chapter on "Space, Time and Motion" leaves on us. The only indication of possible reconciliation that he can find is the discovery that even in the spatial sphere non-mathematical methods are essential to a full understanding of any reality. Now acute and penetrating as his criticism is, and ably as he has exposed the difficulty, he has given no indication of the direction in which Bergson has sought the solution nor of the nature of the solution he has proposed. For Bergson, physics is simply psychics inverted. What we have is not two spheres of reality, but two processes opposite in their direction. These two processes are inverse directions of a movement that is one and identical. If the movement is "spirituality" the simple interruption of it gives the inversion of it that is "materiality". The whole argument may be read in the third chapter of *Creative Evolution* and is conclusive so far as any question of ultimate dualism is concerned. We cannot think of reality, as Bergson conceives it, as two things. It is the essence of intellectuality to present all reality as spatial, but this spatial reality is not presented as a separate thing from another kind of reality represented as temporal. Time itself is represented intel-

lectually as space. True duration is not outside nor inside of space (such a conception would be itself spatial); it is reality. Even the ultimate dualism of being and nothing is unthinkable in regard to it, for "nothing" is a pseudo-idea. The difficulty then that there undoubtedly is in Bergson's conception of space is not the difficulty of dualism, not the difficulty of reconciling two opposite principles, each of whose claim to reality we must recognise—in its final analysis space is simultaneity and simultaneity is a temporal term —it is to show how a principle so ultimate that it seems to underlie and be the ground of the intellectual view of things is attached to and an essential part of that intellectual view. A space that should prove actually irreducible to time would be a negation of the very principle of Bergson's philosophy.

It is when Mr. Lindsay leaves Kant behind that we get the most valuable and helpful criticism. This is especially the case in the chapter on "Matter and Memory" in which we are given a clear and forcible exposition of the argument of this most difficult of Bergson's three books. And it is curious that though it is here, if anywhere, that we may find the appearance of a dualism, it is here that Mr. Lindsay is most clear in expounding the principle that reality is the flux and that space, though given in pure perception, is not a reality in its own right. "The present is not a simultaneous block. It is itself a series of actions. It itself involves duration. In describing it as action, we imply that its reality is change. There is no actual instantaneous present" (p. 184). Bergson's analysis of perception with the unbending realism it involves is very ably expounded. Perception is an instrument of selection, it is not constructive. Mr. Lindsay hardly, we think, expresses the full force of the realism when he says that the difference between the world as it is and the world as it is at any moment perceived is a difference of degree not of kind. There is no difference at all either of kind or of degree in what is perceived, but perception being a selection is therefore a limitation. Mr. Lindsay expresses it very well in another connexion when he says "what we perceive is not something other than reality, but it is less than all reality" (p. 197).

Mr. Lindsay follows his account of perception with a discussion of the nature of error, a subject of peculiar interest in the theory of Bergson, because in a certain way error may be said to occupy a definite position in his philosophy. We might almost say that it has a function. The intellect distorts reality, introduces discontinuity into the continuous, represents the flowing as static, in order to serve the necessities of action. But how can there be a false perception if the perceived world is the real world? This is the difficulty of all realistic accounts of perception. The answer is that a false perception is a false anticipation. Pure perception is theoretical only, actual perception is overlaid with memories and anticipations. It is in the interpretations that these give rise to that

what we call error in the narrow sense lies. The larger question is discussed in an examination of Bergson's doctrine of the relation of consciousness and action.

There is a note of Mr. Lindsay's (p. 84) on Bergson's use of the word "image" in the first chapter of "Matter and Memory" to which it is important to call attention, for the choice of this word seems to have caused very general surprise, and to have given rise to some misapprehension. Waiving all preconceived theories, and describing facts as we find them, Bergson calls these facts "images". It is unfortunate that Mr. Lindsay does not seem to have noticed, or at any rate has not called the reader's attention to the fact, that Bergson wrote a new introduction to the English translation expressly to explain his use of this word. The omission seems to have misled Mr. Lindsay into supposing that Bergson was describing what the plain man means, or thinks he means, by the facts, and in the language that the plain man would himself use to describe them, and so Mr. Lindsay uses the words "things" and "objects". But quite clearly this is not Bergson's purpose. His intention is to give a description of the facts that philosophers would accept, to whatever school they belong, whether they are realists or idealists. He uses the word "image" in the same sense in which Locke used the word "idea," to express the simple content of consciousness. The word "image" is probably as unfortunate as was Locke's word "idea" and for the same reason. But the difficulty, in the original as well as in the translation, is to suggest any word that is not open to equal or greater objection, probably there is no word in ordinary use that can be used in this non-committal sense. At all events, if the word "image" is itself ambiguous there can be no doubt as to Bergson's meaning for anyone who will first read his introduction.

In his final chapter entitled "Intelligence and Intuition," Mr. Lindsay has given us perhaps the clearest account that has yet been written of the exact meaning of intuition and of the part assigned to it by Bergson as a philosophical method. It is a very great service to philosophy that this doctrine should be presented without the vagueness that seems naturally to cling to any principle that claims to transcend the intellect. Mr. Lindsay also deals with some of the strongest objections that have been urged against Bergson's theory of the practical nature of the intellect, and in particular with the objection, almost a protest, by Prof. Bosanquet in a paper read to the Aristotelian Society (*Proceedings*, vol. xi.) against the account of Induction in *Creative Evolution*, the statement that induction rests on the principle of identity, and that the function of the intellect is to bind like to like. Prof. Bosanquet urges against this that the intellect implies a process of active thought and insight, that what we apprehend in induction is not a simple identity but a real universal, and that it implies insight into the real concrete unity of the individual case. Mr. Lindsay replies to this objection by call-

ing attention to the distinction that Bergson has drawn between the application of a tool and its invention. The intellect is seen both in the invention and in the using of the tool, but while the one is mechanical the other is not. "Repetition and quantitative analysis are implied in the working of inductive methods in science, and if Bergson's account seems to neglect other elements, it is because he is concerned with intellect as opposed to intuition, and with the way in which the mathematical implications of the intellect dominate scientific conceptions of causality. Working out of causal relations would be impossible were the causal relations not apprehended by methods other than those which guide their application."

H. Wildon Carr.

Pragmatism and its Critics. By Addison Webster Moore, Ph.D., Professor of Philosophy in the University of Chicago. [University of Chicago Press.]

Prof. Moore's book gives what has long been wanted, a simple and straightforward account of the theories of the 'Chicago' school, of which Prof. Dewey (to whom the work is dedicated) was the founder. Prof. Dewey himself is often very difficult reading, and it is therefore a godsend to receive a small volume, written in a clear and interesting style by one of his most talented disciples, which is devoted to the elucidation of the 'Deweyite' philosophy.

The most important section of the book is the first five chapters which reproduce in substance a lecture-course given by Prof. Moore at Chicago in 1908. The groundwork of his doctrine is contained here, and the remaining chapters are composed of replies to critics and developments of various aspects of Chicagoan pragmatism, including a brief but interesting study of its ethical bearings (ch. xii.).

Prof. Moore gives a general definition of his attitude at the beginning of his first lecture, where he lays it down that "all thinking—that is reflective, deliberate thinking—is a mode of conduct. And by 'conduct' the pragmatist means action which is seeking to maintain and develop that which is 'satisfying' and 'valuable,' or to get rid of that which is dissatisfying and worthless" (p. 4). This does not mean that philosophy is reduced to "a philistine opportunism" (p. 10), it only insists that abstract cogitation shall in the end make a connexion with the world of ordinary life. "It freely concedes the 'impersonal' character of the scientist's work. But, again, it is with the understanding that this is only an immediate impersonalism for the sake of a larger personalism in the end. Like the impersonalism of the just judge, it takes the impersonal standpoint in order the better to serve all persons" (p. 11). Thinking is thus a means to the satisfaction of human instincts, not an independent instinct aiming at a gratification of its own. This, the rival view of Intellectualism, the notion that thought is "merely the expres-

sion of the specific and independent instinct to know" (p. 13), Prof. Moore rejects as unworkable. "If we strip an idea of all its volitional, purposive character, it is difficult to see what we can mean by its truth or falsity. Imagine a cosmic stroke of paralysis that should reduce our activity to a mere stream of images; on what possible basis could we call some of these images 'true' and others false?" (p. 14).

Intellectualism, it is argued in lecture ii., was the work of Plato, who formulated his conception of an ideal world of immutable Reality in order to evade the individualistic psychology of the sophists, which threatened to make common knowledge impossible. This method of regarding knowledge outlived the classical epoch, and lasted into the Middle Ages, because just such a rigid doctrine was required by the Church, which had to act as school-mistress to ignorant barbarians. But none the less the theory is beset with hopeless difficulties. If reality is an absolute, complete, and enclosed system, then not only is it obvious that "if there were any possibility of thought being true, it would all have to be concentrated in a single idea or judgment" (p. 54), but as Bradley saw, even such an idea cannot be true, "for as an idea it must be different from the reality, and therefore false" (*ib.*); to be completely true, it would have "not merely [to] point at, or imitate, but . . . [to] be the whole of reality" (*ib.*). Neither will the device of "Degrees of Truth" help, for how are the degrees to be measured without access to the absolute standard? (p. 56). The time has come then for the pragmatic theory of truth which taking its cue from the Evolutionism of the nineteenth century (pp. 74-75), adopts a view of reality as in process of change, and treats thinking not as "a process of forming symbols of things" (p. 80), but as one in which "things pass into new interactions, and therefore new mutual modifications of each other".

We are here in presence of a remarkably clever and ingenious attempt to outflank the old and tiresome epistemological problem, "How can a thought which claims truth be known to correspond with a reality external to thought?" There is no direct answer to this difficulty, and to maintain that there is any to be found in terms of the "correspondence theory" is a mere sophism. None the less if scepticism is to be avoided, some means of meeting the objection must be discovered, and this has been done by ordinary pedestrian Pragmatism, as the present writer understands it, in three ways.

(1) By bringing out the distinction between a correspondence within experience, which presents no difficulty, and one which transcends it. (2) By showing on analysis that a number of 'truths' hitherto thought to involve correspondence, really only involve a manipulation and classification of the data of experience, as in the case of many scientific laws, and conceivably also in such notions as those of "substance" or "matter". (3) By advising that where a transcendent correspondence is ineluctable, the truth of judgments

which assert it should in practice be measured by their fruitful consequences within experience.

Now it is just on this last point that Deweyism seems to wish to improve. Inasmuch as ordinary pragmatism is left with an indirect reply, and a risk of error, Prof. Moore endeavours to eliminate the conception of 'correspondence' or 'representation' *in toto* from his theory of ideas, and to treat the whole problem in terms of activity. Building upon the facts that in actual life ideas are always sought in response to some purpose, and always issue in some course of action, he proposes to treat the part played by the idea itself in terms of pure activity (pp. 81-85). Ideation is simply the making of a change in reality. Thinking is the beginning of an operation upon an object which is continued by further action upon it resulting from the process of thought (pp. 90-96). 'Truth' or 'falsehood' in an idea is just its success or failure to make *satisfying* changes in reality.

That is the theory in brief, sublimely audacious. It does not seem to me, however, that it will work, and I will shortly state the objections to it. Granting fully that 'ideas' are part of our schemes of action, and that their practical consequences are the test of their truth which we have to use, it seems undeniable that in a number of cases there is a moment in the process where the idea claims to correspond with an existing reality, a claim which would be defeated if it did not. Its intention just then is precisely not to change its object but to reflect it. It is purposive, but its purpose is at that moment just to be representative. This no doubt is not its ultimate end. It seeks to locate its object in order to operate upon it, but such preliminary "photographing" is a necessary step in its plan of action. This objection is identical with that which Prof. Moore calls the objection raised by his "Neo-Realistic" critics (p. 89). It seems to me, however, that Prof. Moore fails to take up a consistent position in regard to it. Thus on p. 80, when it is suggested that in the judgment 'This ache is a tooth-ache' we are after all "just finding out what the pain is," he replies that "it is insignificant that we take the view of what it 'is'—that we should make the is-ness consist in part in its connexions with other things" (p. 81), apparently admitting the objection, though treating it as trivial. And again on p. 212 answering Prof. Perry he concedes that "of course the idea cannot lead to a new experience, unless the material for the experience exists". Thus "establishing a correspondence between idea and fact" seems to re-appear under the new title "discovering material upon which to effect an operation". To speak of first knowing a thing and then acting upon it implies to Prof. Moore "that the line between a thing and its consequences can be drawn ontologically and existentially and is a fixed one" (p. 104). When the Realist urges that "objects known are not 'essentially' modified by the act of knowing" (p. 217), Prof. Moore asks, "If the alteration does not begin in the knowing process, where does it

begin? . . . If I am hungry and bethink me of a sandwich on the sideboard, and if I say that the act of thinking does not essentially modify the sandwich, where does the essential modification begin? When I reach for it? When I touch it? At the first bite or the second?" (p. 218). This seems to me an endeavour to reduce knowing to terms of physical movement and impact, which ignores the very meaning of thought. The judgment "There is a sandwich on the sideboard" prescinds in intention from being interpreted as a change made in the sandwich. "To know" is as distinct from 'changing' as 'reaching' is from 'biting'. This may sound dogmatic, but it seems to me we have reached an ultimate mental attitude which cannot be defined. The attitude may be a mistake, but if it is adopted it cannot be equated with a totally different one, *viz.*, that of operating on a thing. The only way I can approximate to Prof. Moore's view is by putting the case in this way. Granted that knowing is an act, call it, if you like, a change made in an object. Are there not cases in which this act, or change, consists simply in the idea endeavouring to represent or mirror its object? What else can be meant by Prof. Moore's own doctrine that material for the change made by knowing must pre-exist? To discover this material do we not need to represent it in idea? Prof. Moore denies this. In one place he says that at this stage the relation between idea and object is analogous to that between hunger and food, one of stimulus and response (p. 214). This seems to me entirely misleading. If a physical metaphor must be used it resembles much more the relation between a camera and the scene it photographs.

On p. 107 Prof. Moore tries to eliminate the idea of 'representation' in thought by the following explanation: "Knowledge is the beginning of new inter-actions. . . . But the beginning of a new inter-action is always to some extent ambiguous and confused. The first stage of new activity, therefore, is occupied with getting rid of this confusion, and this process the pragmatist calls thinking." The meaning of the judgment "The South Pole exists" would seem then to be that a confusion in my thought is cleared up, this confusion of my thought being yet at the same time a property of the real object, the South Pole. Now it appears obvious that, on the one hand, in this judgment I do not mean that I manipulate the South Pole,[1] and equally obvious that to explain the judgment in terms of inter-action omits its essence, *viz.*, the *assertion* that the South Pole *exists*, an act which is *toto genere* distinct from *changing* the South Pole. Really, if we are not allowed to treat knowing as in this sense a unique activity, we might as well demand to have 'changing' reduced to 'eating' or some other disparate mode of conduct.

[1] If I 'inter-act' with it in my judgment, that is a formal statement. The mode of inter-action is *sui generis*, *viz.*, judging, just as the mode of inter-action implied in reaching it in a boat is *sui generis* and irreducible.

The Chicago Pragmatists have been accused of solipsism precisely because they have sought thus to eliminate the 'transcendent' element in knowing and to explain the cognitive function entirely in terms of the knower's experience. Who does not see, however, that when we assert the existence of minds other than our own, our judgment deals essentially with what lies beyond our own experience and never can enter into it? We may have to accept its consequences in that sphere as a *test* of its truth, but such consequences do not *constitute* its truth. The dualism may be puzzling but it cannot be eliminated. Prof. Moore's attempt in chapter x. to evade the whole problem by asserting that 'Solipsism' is discredited by psychology and science is a sheer paralogism. We cannot base pragmatism or any other theory of knowledge on 'science'. It is science itself which stands at the bar.

Suppose a man enters the gloom of the Chamber of Horrors at Mme. Tussaud's waxworks. He sees around him rows of figures. Suddenly he starts at observing one of them move his head. "It's a real man," he declares after a little internal debate. But then the monotonous turning of the head perturbs him again. He revises his opinion. "It is a figure with a clock-work head after all," he concludes. Suddenly the figure turns and walks towards him laughing. "Why," he cries, "it's my friend Smith trying to frighten me with one of his practical jokes!" Now can it be seriously maintained that what happened was that the judger twice turned a waxwork into a man and *vice versâ?* Only if 'man' meant nothing but a phenomenon of his own experience, *i.e.* if he were a Solipsist. But taking man in its proper sense must we not say that the object of his judgments, true and false, was *really all the time* a man and that his last judgment was taken as true because it seemed to correspond to this fact? The 'Deweyite' theory, if I understand it, explaining everything in terms of change experienced by the judger and dismissing altogether the ideas of 'correspondence,' 'representation,' or 'transcendence of the object,' must ultimately resort to the other explanation suggested above, an evident *reductio ad absurdum.*

I have examined Prof. Moore's views thus fully in order to draw attention to one of the cleverest and subtlest theories of knowledge which has ever been evolved in philosophy, and also in the hope that some further explanation may be forthcoming from their author to show more precisely how far he identifies the contents of private consciousnesses with the world of real objects. The familiar 'Deweyite' disclaimer, 'We do not believe in private consciousnesses,' can hardly be accepted as an *a priori* solution of the difficulty. Inasmuch as it is possible actually to doubt whether experiences other than my own exist, the logician must show how he arrived at his disbelief in the privacy of consciousness. I think it will be hard to explain this judgment in the familiar 'Deweyite' terminology.

D. L. Murray.

Some Problems of Philosophy: A Beginning of an Introduction to Philosophy. By WILLIAM JAMES. Longmans, Green & Co., New York and London, 1911. Pp. xii, 237.

ON the far-distant day when the Academic Spirit comes up for the Last Judgment and the Recording Angel unrolls the long list of the stupidities and crimes whereby it has wrought incalculable evil to mankind, mention will no doubt be made also of its misdeed in keeping the spirit of William James so tightly tied down in the teacher's treadmill that he was never given the chance of enriching human life by a complete exposition of his philosophy, perfected in matter and in form, and worthy of his unique endowments. As it is, the writings of James express his total personality only in fragments, and the latter has to be reconstructed by a 'synoptic' imagination which is rare, especially among professors. This tantalisingly unfinished 'beginning of an introduction to philosophy' forms one such fragment, not the least precious, though, alas, the last. Not that, even if it could have been completed, it would have been *more* than a fragment, more than an adumbration of the total vision of the world as it was revealed to the soul of William James. For it too belongs to the marvellous series of 'popular' works, in which James has shown, as an example for all time, that it is possible for philosophy to be profound without pedantry, to interest without debauching, to penetrate directly to the heart and mind of all live thinking without commending itself to the vices of the professionals by cultivating an oracular obscurity and enwrapping itself in the pretentious trappings of technicality.

Of course, his professorial colleagues have always found it difficult to conceal their dislike of such matchless popularity. They have preferred to believe that James wrote as he did, because he could not write otherwise. They have never given him credit for his missionary zeal to extend the borders and to augment the powers of philosophy, for his burning faith in the spiritual value and educational function of philosophic speculation. Now this was not at all intelligent of them. For philosophy, as they conceived it, was neither easy nor attractive nor directly useful. It was not even valuable as mental training: for to convince their students by long-winded disquisitions that the unintelligible exists but that ordinary mortals have no head for it, is neither to improve human thinking nor to sharpen human appetite for knowledge. Consequently they seemed to James to be labouring strenuously at the destruction of their subject; which indeed had already lost the protection it formerly enjoyed, everywhere except at Oxford, where numbers of classical scholars are still hired to study a little philosophy, in order that they may know how to avoid it for ever after. Philosophers of all schools, therefore, should have been grateful to James not only for awakening widespread interest in his new philosophy, but also for turning the eye of philosophy towards science and life, and teaching its tongue to speak with articulate eloquence.

James therefore had been writing what in a sense were introductions to philosophy ever since he completed his great *Psychology*, and the present volume is but a continuation of the series. Its special significance naturally consists in the new points and new emphases which show the direction his mind was travelling. As such novelties may be mentioned the treatment of the problem of Being in chapter iii., which shows that all philosophising must take Being as a datum, and the fascinating chapters which follow on 'percept and concept,' which show how and why we carve the "aboriginal sensible muchness" into a conceptual order, which can be substituted for the perceptual, and is idolised by the rationalistic temper. Here James is very emphatic that the perceptual order is a real *order*, the continuity of which has a value no conceptualising can ever supersede or reproduce, and is fully conscious that he has completely outflanked Kant's *disconnected* manifold, and the apriorism which was designed to cure it (p. 51 n.), and only engenders insoluble puzzles (pp. 85-90). The same charge of ultimately *irrationalising* the facts is brought against monism in the chapters on the One and the Many (ch. vii.-viii.), which are the more effective for their studious fairness. Still the vicious verbalism of inferring the unity of experience from our application to it of the word 'universe,' and its scientific inadequacy as a substitute for specific investigation of the sorts of ways in which the world is one and continuous and discrete and many, and the psychological nature of the illusion which makes any sort of oneness seem valuable, are well brought out. The final upshot is that no monism can escape from Eleaticism and the denial of freedom, change, and novelty. The problem of Novelty is next treated, probably for the first time in philosophy *eo nomine*, though with great affinity with Bergson, in chapters x.-xiii., first in relation to the conceptual abstraction from the perceptual "effervescence of novelty all the time," then in relation to the infinite, where the logistician's 'new' definition of infinity and of transfinite number comes in for some penetrating criticism, and lastly in relation to the repudiation of the direct experience of agency by the theory of causation propounded by Hume and accepted in its essentials by Kant. The conclusion is that "in our personal experience we are witnessing what is really the essential process of creation" (pp. 214-15). The book concludes with an appendix on Faith and the Right to Believe, which distinguishes in the most explicit way between the *will* to believe, by which our faith-tendencies build up a "faith-ladder," and the *right* to act on probabilities, which the necessities of life confer upon us. There is, however, nothing new in this, as the distinction was from the first affirmed in the *Will to Believe* (p. 29). But as the whole allegation that James had granted every one the right to believe whatever he pleased has all along been a figment of bias and a will to believe in one's prejudices, it seems quixotic to hope that even the plainest speaking can correct the errors of those whose will is certainly not to believe

the account of the faith-function in authentic pragmatism. The dedication of the book to the memory of "the great Renouvier" signally attests another fact which the vulgar derivation of Pragmatism from the national American character finds it convenient to ignore, *viz.*, that the philosophic influence which gave the decisive direction to James's thinking was not Anglo-Saxon and Teutonic at all, but Latin and, more particularly, French (*cf.* No. 79, pp. 422-423).

From this account of its aims and contents it may be gathered how far the last work of the great American thinker towers above ordinary criticism, but it is perhaps expedient to add a word of explanation concerning what some will no doubt treat as an inconsistency. There seem to be in it two conceptions of the function of the concept. In general, concepts are conceived as valuable instruments in the manipulation of our experience. But occasionally we hear that "properly speaking concepts are post-mortem preparations sufficient only for retrospective understanding" (p. 99). Correspondingly, though percepts are usually "singulars that change incessantly and never return exactly as they were before" (p. 98), occasionally a hint is dropped that "the cuts we make are purely ideal," and that it is our concepts that 'decompose' the 'passing pulses' of our life and 'abstract and isolate its elements' (pp. 108-10).

The explanation, of course, is that James is thinking sometimes of the conventional or intellectualist accounts of these cognitive processes, sometimes of the real functions. He knew that it is equally untrue that 'concepts' are fixed and that 'percepts' are mere particulars; but he did not think it possible in an introductory book completely to set aside the traditional phraseology and to start from the fully concrete, immediately experienced, meaning-attitude, and to show how 'percepts' and 'concepts' both grow out of this. As he wrote to me as lately as 4th May, 1910, "I have caught the meaning of the fluidity of concepts long since: also I have always known that percepts (in the plural) are just as much artefacts as any concept is". But he realised also that, to state the facts adequately, there would be needed a new logic that would start by recognising every thought as an act of responsible choice and study its meaning while it is actually alive, and not after it has been distilled into a form of words. To what now passes as 'logic' James felt so strong a repugnance that he did not shrink from describing himself as "almost blind logically" (p. 183). But his blindness was that of the true philosopher who after enjoying the vision of true reality has to descend again into the Cave and contend with monstrous shadows in the gloom.

F. C. S. Schiller.

VII.—NEW BOOKS.

The Development of Religion: A Study in Anthropology and Social Psychology. By Irving King. New York: The Macmillan Co., 1910. Pp. xxiv, 371. Price $1.75.

In an apologetic preface, Dr. King informs us that the chapters which make up his book have been written at irregular intervals during the past eight years; that he is conscious of a change, during this period, in his interest and point of view; that the discussions here offered to the public are incompletely worked out; and that a number of relevant topics have been omitted. Nevertheless, he has a definite doctrine to set forth, and the reader need not be discouraged. It is impossible, in the present state of social psychology, to treat of the development of religion in more than a tentative way; and if the writer's argument shows lacunæ, and occasional discrepancies, these logical flaws are themselves a guarantee of honest thinking, and may stimulate his public to think further on their own behalf.

The method of the introductory chapters is that of a gradual narrowing of definition. Dr. King argues, and argues soundly, that every phase of the religious experience is legitimate material for the psychologist. Generically, it is a mode of consciousness; and its differentia lies on the side of functions served, rather than on that of mental contents; there is a constant flux of ordinary mental states into and out of the sphere of the religious consciousness. But 'function' is, again, a generic term; and the differentia of the functions grouped as religious is that they are 'valuational' [why not 'appreciative'?]; the psychology of religion will, therefore, be largely taken up with the natural history, the genetic classification, and the explanation of the consciousness of value. But generically, once more, religion does not differ from many other consciousnesses which may also be described as valuational; so that the problem of the psychology of religion is, in the last resort, to discover the differentia which constitutes value a religious value.

No one will dispute the first step of this process of reduction: we may accordingly turn at once to the psychology of valuation. There is no religious sense, or religious instinct, the author declares; but there is a religious attitude; religion is an appreciative reaction, involving consciousness, upon the environmental situation. The appreciative reaction, now, is always a delayed reaction; and the complication of activity that means delay, and therefore brings consciousness into function (pp. 53, 59, 66, etc.), may be due to various causes: to mere chance associations, to conscious effort for the adjustment of means to ends, to the associative substitution of reduced and imitative reactions for a direct reaction which is at the time impossible, to the expression of the impulse of play (pp. 54 ff.). It is to be noted that the complication is, throughout, a complication of activity; value is marked off from other mental functions by its dependence on the development of active processes. Hence the

overt practices—rituals, ceremonies—which certain authorities banish to the domain of ethnology are, in reality, of great psychological import; they are, in a very genuine sense, the causers and sustainers of the subjective attitudes from which they are usually supposed to proceed.

Here, no doubt, there is room for criticism; but the writer was obliged to lay his psychological foundations somewhat arbitrarily, or there would have been no superstructure at all. Let us, then, take the valuational consciousness for granted. Two questions at once arise: those of the genesis of the specifically religious attitude, and of the origin of religious practices and ceremonials.

Religious belief is always the evaluation of some social activity; primitive man's highest values are distinctly social matters; the social organisation is practically the universe of primitive life; the values of the group are ultimate and universal. All permanent notions of value are differentiated from the matrix of the social group, and the religious values express the problems of group-life "in their most ultimate form" (p. 84). We are thus on the road to a differentia of valuation as religious, though the author still speaks in general terms. His position is supported by a number of illustrations, which, however, are not always happily chosen; the hunting-practices of the Greenland Eskimo ought, on his own showing, to be elaborately religious in character (pp. 53, 73, 82 f., 101, 118). The second question is answered, again in general terms, by the statement that some of the more fixed activities of a primitive group are the first manifestations of religion, furnishing the objective conditions for the appearance of the mental attitude; every social group has its practical problems, its sports, its festive occasions, which as social are productive of a consciousness of permanent value; and all gradations of social action may, in fact, be traced, from the purely playful and practical, to the explicitly religious.

The reader now expects a further reduction. Value has been exchanged for permanent value, and this has been equated to social value; what, then, is the differentia of social that constitute it religious? Instead of attacking this problem, the author turns, with a wrench of which he is himself keenly conscious (p. 132), to a consideration of the 'mysterious power' which fills the background of the primitive *Weltanschauung*. There is a very widespread belief in some power or potency, which lies behind all natural phenomena, though the power is so vaguely conceived that it may properly be defined neither as personal agency nor as mechanical principle. This notion of an impersonal potency, mysteriously operative throughout the world, is a natural result of primitive man's contact with his environment; once acquired, from some striking object or situation, it gradually assumes the function of a general explanatory concept, determines the frame of mind in which new situations and experiences are approached. It is not in itself a religious idea, and need not be related in any peculiar way to the development of religion; as a matter of fact, it has played a very important part in that development. [So we may interpret the somewhat conflicting statements, pp. 133, 163, 178, 199, 242, 262.]

The connexion of *Weltanschauung* and religion is worked out in two chapters, which deal respectively with Magic and Religion, and with the Development of Deistic Ideas. Magic and religion are differentiations from a primitive substratum of crude associations and spontaneous reactions; magic is relatively individualistic and secret, religion is fundamentally social and public, in its methods and interests. The worker in magic deals, moreover, with some mysterious power; magic thus has to do with the private and sometimes nefarious use of the cosmic potency. What of religion? We must remember that social values can hardly be

perpetuated save in social terms; the 'gods' represent the tendency of man's reactions to be extensions of the reactions evolved through social intercourse. The first, germinal deities were the objects or persons supposed to have 'power'; here, in an associative rather than a personifying process, is the connexion of the cosmic potency with religion. Henceforth, the continued reactions of the social group upon the fundamental values of the group-life tend, inevitably, to cast these values into personal moulds; we pass from the culture-hero and the all-father to the true deity. We pass, that is, in the abstract; the body or filling-in of the story is in large measure due to the play of fancy, as stimulated by human associations.

An interposed chapter discusses the application of the concept of evolution to the religious attitude. Stages of culture may be arranged in serial order; but the arrangement is no proof of serial evolution; types emerge, rather, by mutation, under stress of concrete social problems. There is evidence of orthogenesis, of the determination of direction of change by the nature of previous variation, in all social processes. The method whereby the religious attitude is transmitted is that of social heredity. Its elaboration in successive generations depends upon the growth of individuality.

We have seen that the union of the belief in a cosmic potency with the tendency to express social values in social terms has led to the idea of deity as a personal, conscious agent. Dr. King next proceeds to the problem of monotheism, and of ethical conceptions of God. He shows that the notion of one supreme god may appear, under favourable conditions, in relatively low types of religion, and may be absent, in default of these conditions, from more highly developed types. Thus, every distinguishing characteristic of the Jehovah of the Hebrew prophets may be traced to beliefs and appreciations normal to the general social *milieu* of the early Hebrews. The relation of religion and morals is discussed only in brief sample; we may, perhaps, expect a book upon the subject.

At this point, the argument takes another and a final turn; two crowded chapters discuss the relation of religion to mental pathology, and that of religious valuation to supernaturalism. Is there anything in the religious attitude which has tended to foster unusual mental and motor phenomena? Yes: first, the fact that religious values are to be appreciated rather than intellectually formulated; and, secondly, the associated idea of supernaturalism. (This idea, which should have appeared earlier in the book, is now briefly referred to primitive man's notion of the cosmic potency as thwarting or furthering his active interests. There follows an excursus on the 'subconscious,' with regard to which the writer takes up a colourless and non-committal attitude.) Have, then, the pathological elements contributed to the development of religion? Again, yes: they have fostered the growth of individuality, in a sense that has not destroyed the essential sociality of the religious attitude, but has rather worked out its intention. Finally, is the concept of supernaturalism necessary to the expression of the higher valuations? Probably, yes: in so far as the symbolism satisfies and helps, it represents a genuine aspect of reality, though the mode of expression can never be regarded as proving the validity of the attitude of mind behind it.

As we look back over the whole work, we realise that the author's procedure by genus and difference has failed him, on the formal side, while its failure has nevertheless led to a positive view of the religious consciousness. It is "absolutely impossible to give the religious attitude any definite delimitations" (p. 307). The problem is to trace the connexion between various 'religions' and the cultural matrix out of which

they have sprung; to note how, in certain environments and in the face of certain vital issues, a 'religious' type of attitude tends to develop in particular ways, its content and form varying with the external conditions; in a word, to show how the more important social activities produce a peculiar differentiation of consciousness which, when it has become explicit, may be recognised and marked off as 'religious' (p. 214). This is Dr. King's result, and it is a result to which, in the large, we may subscribe.

The book has an elaborately analytical table of contents, a selected bibliography, and a fairly full index. In no one of these places—amazing to relate—is reference made to Wundt's *Mythus und Religion.*

P. E. Winter.

A First Book in Psychology. By Mary Whiton Calkins. The Macmillan Company, 1910. Pp. xvi, 419. 8s. net.

According to Miss Calkins psychology is a science of the self as conscious. The self has at least four fundamental characters; it is (1) relatively persistent; (2) complex; (3) unique; and is (4) experienced as related to objects which are either personal or impersonal. A classification of these objects is attempted.

The actual work of the subject starts with the distinction between Perception and Imagination as experiences of the related self. There are three differences: in perceiving (1) I immediately realise my receptivity or passivity; (2) I realise reflectively the community of my perception with the experience of other selves; (3) I am related to an object which I regard as independent and external. Study of perception and imagination then proceeds to a consideration of its complexity alone, thereby leading to a review of the structural elements of consciousness or to the procedure of the average psychological text-book. It may be said generally that the references to the self and to the classification of objects only serve as formal or even literary introductions to the usual text of the science. Nothing appears to be achieved by the insistence on the self-aspect.

The same must be said of the doctrine of the structural elements of consciousness propounded by Miss Calkins. The question is not even once raised what a psychology can do with the huge heterogeneous mass of elements she distinguishes, except that they fuse. It is considered sufficient merely to enumerate what is apparently unanalysable. That falls into three classes: the sensational (all the qualities, brightness, loudness, etc., bigness, volume, etc.), the attributive (pleasure, displeasure, attention, consciousness of realness), the relational (consciousness of one or more than one, of more or less, of like or different, of the connected or opposed, etc.). The attributive elements are attached to sensational consciousness and the relational are subordinated to two other elemental experiences.

The view of McDougall is adopted that there are as many elemental qualities of pitch as there are distinguishable qualities in an octave. Distance or apartness is held to be the simplest form of complex spatial consciousness. It is not elemental, however, but is "made up of a consciousness of the two-ness or duality (of sense-objects or qualities) fused with a consciousness of intervening extensity" (p. 67). "When two points touch my skin, I not only perceive the pressure and the two-ness, but I imagine the extended pressure of an object stimulating the intervening extensity" (p. 69). "The consciousness of depth-form is not an elementary and unanalysable experience; rather, it is a consciousness of

two-dimensional form fused with a very complex but very vague consciousness of the bodily movements necessary for apprehension of the object" (p. 73). "Thus, the consciousness that the sky is over me includes a vague consciousness of my body floating upward, and the consciousness that the cake plate is in front of me includes the movement, or tendency to movement, of my arm toward the cake plate" (p. 76). In connexion with the illusions, Miss Calkins allows that the eye-movement theory in its extreme form is experimentally disproved by Stratton, Dodge, Judd and others (p. 340). Later (p. 346 f.) she points out that the notorious errors of localisation show that the motor theory is compatible with lack of an exact parallel between bodily movements and accurate localisations, and that it is possible "that in the developed localising consciousness of some subjects, visual images [of feet, face, or hair, or the imagination of certain parts of the ordinary environment] may have crowded out the motor consciousness".

In Recognition, Miss Calkins considers an essential character to be the emphasised persistence of the self. "The recognition of an object seems to include, when reflected on, the consciousness of sameness with a past thing, and the recognition of an event means the awareness of 'this event identical-with-something-past'" (p. 130). "The experience of the past may be roughly described as the consciousness of an irrevocable fact, linked in two directions with other facts" (p. 131).

Unlike Imagination, Thinking is not a "private" experience. One is conscious of sharing the experience with other thinking selves. "The relational experiences especially distinctive of conception are the experiences of generality. These are two (corresponding with the two sort of objects of conception): the consciousness of class, and the consciousness of 'anyness,' that is, of membership in a class" (p. 136). "Three important types of conception must be named. These are (1) verbal, the consciousness of a class (or member of a class) whose common character is a name; (2) relational . . . whose common character is a relation—say of order, opposition, or degree; (3) motor . . . whose common character consists in this, that each one of the class calls forth a similar bodily reaction. These descriptions are in terms of the object of conception" (p. 137). Psychologically the word or relation or bodily reaction has attached to it a consciousness of class or of "any". Verbal conception occurs in all abstract thinking. Concrete conception is in great part of the motor type.

Emotion is an intensely individualising experience, which, like perception, is receptive and passive. It is also characterised by the organic sensations which it includes. "Emotions are commonly grouped according to the varying relations of different selves to each other, and on the basis of the contrast between pleasantness and unpleasantness" (p. 175). Subheads are: without valuation of the other self; with valuation of the other self, who is stronger, equal to or weaker than oneself (with interchange of "other" and "one"). Impersonal emotions are egoistic or altruistic (which latter word means not related to another self, but absorbing), sensational or relational. The altruistic class includes æsthetic pleasure (sensational) and logical pleasure, sense of humour, etc. (relational). Æsthetic emotion is a consciousness always of the beautiful, never of the ugly; it is also attentive, "so that it is fair to conclude that sensational experiences are beautiful, if ever, when easily attended to" (p. 192). The beautiful is, thirdly, always an object of direct and immediate perception; "nothing can be beautiful which is not a direct and immediate object of sense-perception" (p. 194). Æsthetic pleasure, finally, is entirely disinterested; "the contrast between one self and other selves is all but vanished".

Volition differs from mere antecedent imagination in that it includes a certain realised anticipatoriness. This term is used to indicate "a complex experience, including at least three factors: (1) the consciousness of realness; (2) the consciousness of the future; and (3) an experience of linkage or connectedness—the consciousness of the dependence of the end upon the volition" (p. 222).

The above will probably suffice to illustrate Miss Calkins' analytic method, which seems to the reviewer rather jaunty and ineffective. It will doubtless be claimed that the results of such analysis have absolute truth-value, apart from their instrumental advantage. That may certainly be so, but one might expect some promise of simplification, something more than verbal knowledge to result from all these distinctions. Over against the elements selves also seem to stand apart, unwilling and embarrassed. The addition of objects makes a dispeaceful trinity.

The main text of the book, which embodies Miss Calkins' psychology, is written in an easy and rather allusive style. Frequent reference is made to the bodily conditions and accompaniments of mental states, even to those of thought. Many short discussions, outlines of the physiology of nerve and sense-organ, some problems of sensory psychology and grouped references are included in appendices, which form nearly one-third of the volume. There are also some twenty pages on abnormal psychology, seventy review questions, and an index.

HENRY J. WATT.

A Treatise on Electrical Theory and the Problem of the Universe. By G. W. DE TUNZELMANN, B.Sc. London: C. Griffin & Co., 1910. Pp. xxxi, 654.

This book is in many ways interesting as an able popularisation of recent scientific work; but the only chapter in it that calls for notice in these pages is the last one, entitled "The Place of Mind in the Universe" (pp. 446-505), and this is exasperating rather than interesting. It is embellished indeed with a miscellany of long and varied quotations from writers of distinction, but—*fehlt, leider! nur das geistige Band.* The author, it seems, was led to treat his final topic 'from the physical point of view' by a chance incursion into the region of so-called 'psychical research,' coupled with his acceptance of Blondlot's N rays as 'an observed fact' (App. R). By this short and easy method he was "led to the formulation of the theory of the universal mind which" he here seeks "to establish on a strictly observational basis". The start is not reassuring and the result does not belie it.

Following, as he supposes, in the steps of Sir Joseph Larmor, Mr. de Tunzelmann conceives three models of the universe—the mechanical, the molecular, and the mental. The first explicitly recognises only matter and energy: its essential basis is 'the central force system developed on the pattern of the Newtonian law of gravitation'. But a further mechanism is required 'for the transmission of the forces postulated in this first scheme,' and so we come to the molecular model and have to add ether to matter. But we soon find that matter, ether, and energy will not suffice. The principle of the dissipation of energy *practically* involves—shows it to be infinitely probable—that "our universe must, . . . in the absence of directive intelligence, have had a beginning and be tending towards an end," in other words cannot be a conservation system. So far so good. But now how, 'from the *physical point of view*,' can we obtain any assurance that a 'state of changeless death' will not, in fact, eventually ensue? Surely it is just the physical point of view that reveals its 'prac-

tical necessity,' and "the definite demonstration that the conclusion arrived at *is* a practical necessity of the known molecular constitution of matter" is actually provided for us in Appendix K from a paper by a very able physicist, Mr. J. H. Jeans.

It is further contended that the guidance which the mental model with its directive intelligence implies "may take place without any interference with or modification in" the mechanical and molecular models, and does in fact so take place (p. 453). But how then do we know that it takes place? We know it from what "is observed to be effected, on a relatively minute scale, by all living beings" (p. 454). In keeping with this the author refers "to the absolute line of demarcation . . . which is marked by the advent of life" in spite of the absolute continuity in [the] mechanical and molecular laws applicable to all matter, whether living or lifeless. He finds an analogous demarcation between man and brute in the fact of speech and what this implies, notwithstanding the continuity observed between the human and all other organisms (p. 487). In both cases, 'from the physical point of view' there is absolute continuity; for physiology—and presumably all biology—is expressly included in physics (p. 467). How then, we have again to ask, can the twofold discontinuity that mark the advent of life and reason, how can the guidance of the mechanism be ascertained, from the physical standpoint? *A propos* of naturalism, Prof. Sorley has said: "The completest account of the world as a whole which is possible is held [by it] to be the description of it in physical terms: the spiritual factor is held to be dependent, if not illusory". Having quoted this passage, Mr. de Tunzelmann continues, "it would be impossible to justify this statement in a few pages, but it is demonstrated with the most convincing logic and lucidity in the work referred to" (p. 489). If it is any comfort to our author we may fairly assure him that he *has* justified this statement far better than he thinks.

J. W.

Dogmatism and Evolution. By Theodore de Laguna, Ph.D., Professor of Philosophy in Bryn Mawr College, and Grace Andrus de Laguna, Ph.D. New York: Macmillan, 1910. Pp. iv, 255.

This is a work of distinct merit. The sympathy of the authors is in favour of what is permanent in Pragmatism, but is as firmly opposed to its extravagances. It deals with the present situation in a historical way, carrying the discussion of principles back to the old dogmatism which formed as a precipitate in the ebullition of the Renaissance. This is a proper undertaking, for Pragmatists, as a rule, do not like history.

The historical sketch is brief, but, in spite of its schematic form, is suggestive, independent and well adapted to its purpose. First, it is shown how the parallel tendencies, Empiricism and Rationalism, are based on dogmatic presuppositions which are fundamentally the same. In Rationalism, it takes the form of intuition, and then the immediate datum is a truth of Reason; in Empiricism, the basis of certainty lies in sensation. Both analyse experience into ultimate simples, universal truths of Reason and particulars of Sense-perception. The only difference is that in Rationalism, it is a conceptual absolute, in Empiricism a psychological absolute (p. 52). Their community of principle has its culminating proof in their theory of relations as external. In the second place, Dogmatism is followed by the 'critical' Revolution. But the authors are concerned to trace the dogmatic temper also in its criticisms, and not only in Kant but even up till the present time in Pragmatism. So we are reminded once more how Kant was the true child of his age,

notwithstanding his originality, and how rationalistic conceptions were more than a contingent form of expression and were partly congenital to his thought. It is true that Kant made a signal advance on his predecessors by accounting for contingency in the particular through the *a priori* forms of intuition and thought. But, on the other hand, the categories seem to have an independent content out of all relation to experience. I think, however, that Mr. de Laguna has forced his criticism somewhat on this point. It is not the categories that do the real business of Understanding but the Schemata, and therefore, so far as the *Analytic* is concerned, rationalistic concepts have only nominal interest for Kant. Mr. De Laguna evidently takes the view that Schemata are only intermediate psychological elements, but they are the real metaphysical factors in knowledge even for Kant, in spite of the psychological form of the Deduction. Certainly Kant believed at the same time in 'Platonic' forms of thought which have a meaning wholly independent of experience; but we must be clear that both the two positions occupied Kant's mind, and in the *Analytic* it is the former that holds the field. And further, Mr. De Laguna does not notice that universality in the formal sense of Rationalism gives way in the *Critique of Judgment* to a reflective or hypothetical mode of thought. It is the case, then, that in the end Kant sought to introduce contingency into the universal as he had formerly qualified the contingent particular with universality.

Next we come to Absolute Idealism, which gives complete expression to the new tendency inaugurated by Kant. In Hegel we seem to breathe a different atmosphere from that of Rationalism. Thought is no longer static but dynamic and dialectical. But it betrays a dogmatism of another kind. Like the rationalist, Hegel comes to regard Thought somewhat in the manner of a mechanical quantity. The concrete universal, notwithstanding its merits as an attempt to prove the elemental unity of Reality and Thought, has something of the *caput mortuum* about it. By anticipating history, it forecloses the issue.

Finally, the authors examine the principles of Pragmatism and judge that it is subject to the tradition which it so vehemently attacks. Yet it has indisputable merit as the first thorough appreciation of Darwinism as applied to logical theory. It takes its point of departure in Functional Psychology, Consciousness being instrumental and having only a survival-value. All ideas refer ultimately to modes of behaviour. No one will dispute that, genetically, Thought has a practical reference. But Pragmatism holds that the function of Thought is exhausted in its control of conduct. If, however, as is acknowledged, the practical reference may be indirect, the Pragmatist contention becomes quite pointless as a polemical statement. All ideas have a remote bearing on conduct, but it is so remote that the peculiar content of ideas has far more immediate reality than their practical import. The indirectness of Cognitive control over conduct "implies that the interrelations of concepts which mediate the ultimate, practical reference must have a character of rightness or wrongness in themselves" (p. 207).

A Textbook of Psychology. By Edward Bradford Titchener. The Macmillan Company, 1910. Pp. 303-558. 6s. net.

Every one familiar with previous textbooks by Prof. Titchener will find in this second volume continuous evidence of his lucidity and completeness of review. In spite of certain peculiarities, the book will surely be welcome to teacher and student. The views here expounded are substantially those of the recent volumes on Feeling and Attention and

on Thought-processes, which have already been brought to the notice of readers of MIND. Only a few points need therefore be mentioned.

The first two chapters, which deal with Spatial and with Temporal Perceptions, are prefaced by paragraphs upon the sensory attributes of extent and duration. Localisation is considered to be generally a corollary of these attributes. Spatial localisation, *e.g.*, is a necessary consequence of qualitative differences within the total bidimensional field and transition to tridimensional space is mediated by kinæsthetic sensation: in the sense of touch by articular sensation, which is itself held to be spatial in character, and in vision by muscular sensation. For the spatial illusions the eye-movement theory is held to be the best. Of Wundt's theory that "space results from the fusion of quality and intensity," it is said (p. 338) that it leaves us with a mystery; "nowhere else, over the whole range of psychology, does the concurrence of attributes give rise to an absolutely new form of consciousness". "We cannot understand how, in this particular case, the new product should arise." And to some it may seem that Titchener's derivation of spatial localisation is just as irrational.

It is likewise difficult to reconcile the treatment of Recognition with the general sensationalistic position adopted. For Titchener acknowledges that recognition is possible in the absence of any associated idea whatsoever. Besides, so far as it goes, the evidence, he says, is also against organic complexes, so that recognition as such seems to be wholly a matter of feeling. "What, then, is this feeling? In experiments upon recognition it is variously reported as a glow of warmth, a sense of ownership, a feeling of intimacy, a sense of being at home, a feeling of ease, a comfortable feeling. It is a feeling in the narrower sense, pleasurable in its affective quality, diffusely organic in its sensory quality" (p. 408). But it may fairly be said, that the 2nd, 3rd and 4th of these equivalents are just other names for recognition, while of the others we may say: "We cannot understand how, in this particular case, the new product should arise".

The essential thing about perception, we are told on page 367, is meaning; and meaning is always context. On page 371, however, we find that the fourth point for consideration in the psychology of perception is that "meaning may lapse from consciousness, and conscious context may be replaced by an unconscious nervous set," or "meaning may be carried in terms of physiological organisation". It is difficult to reconcile these statements. Either meaning is not essential to perception, or meaning is not always context, or meaning is not always experience. The consistency of the following statement with a sensationalistic position also needs elucidation: "The presence of imagery does not necessarily imply the use of imagery; my mind may be full, *e.g.*, of visual images, and yet I may habitually mean and understand, think and remember, in other than visual terms" (p. 404). This is doubtless true; but surely when essential processes like meaning lapse, these useless processes might also subside. Some readers may feel disposed to think that Titchener has not done justice to meaning. Epiphenomenalism and sensationalism are not generally accepted views, and it is perhaps inadvisable to force them upon the student so vigorously as Titchener does. This is the more to be regretted, as the impartiality of the book in other regards would surely have made it universally welcome.

Paragraph 125 on the Genesis of Action is so obviously doctrinaire and unnecessary that it might well be omitted. It is hardly useful to raise for the beginner the problem of the first movement of the first moving organism. Moreover, such a term as "half-vital ancestry" only courts ridicule; while if the lowest organisms may have "lost the flicker

of mind that they at first possessed," there seems to be no reason to suppose they ever had any mind at all.

HENRY J. WATT.

The Cameralists: the Pioneers of German Social Polity. By ALBION W. SMALL. Cambridge: University Press, 1909. Pp. xxv, 606. Price 12s. net.

This work opens up a new field of study to English students of Political Philosophy and Economics. The Cameralists were a body of administrators, whose influence began to make itself felt as early as 1555. The chief representatives of the system were Osse, Obrecht, Seckendorff, Becher, Schröder, Gerhard, Rohr, Gasser, Dithmar, Zincke, Darjes, Justi and Sonnenfels. They can scarcely be described as writers who contributed to the development of the theory of the State, though in their work there is assumed a special standpoint with reference to the nature of the State and its functions. Granting this standpoint, it was their function to provide the means for realising the ideals of the ruler. In particular, they stood for efficiency of administration, and the most interesting and able portions of the book are those which show that a knowledge of the foundation laid by the Cameralists is necessary for the understanding of modern Germany. It is also important to notice that the writer of this history is far from accepting the traditional account of the Mercantilism of the Cameralists. This question arises through the steps recommended by Cameralistic writers for the raising of revenue, the increase of which was sought by the regulation and development of trade. Mr. Small shows that, when Adam Smith speaks of writers who thought of wealth as consisting of money or of the precious metals, the Cameralists should be excepted. It is true that they laid considerable stress on the advantages of the State being in possession of bullion, but Mr. Small contends that they were not concerned with an analysis of the nature of wealth, and he draws an ingenious distinction between Schröder's use of *Ueberfluss* and *bereitestes Vermögen*—the former corresponding in part to Adam Smith's term "Wealth" while it was with the latter that most Cameralists dealt. This distinction carries us a certain length, but by no means the whole way. Granting that the Cameralists aimed at increasing the "ready means" of the sovereign by the development of commerce, they must have had a conception of the nature of trade more or less implicit in their minds. While it may be true that much of what they say does not conform exactly to Adam Smith's description of the Mercantile System, if one turns to their works, much will be found which is in essence Mercantilism, indeed even ultra-Mercantilistic. For instance, Becher not only opposed trade in foreign goods which could be produced at home, he even believed that it made for the destruction of the community, and he went the length of urging that importers of such goods should be treated "as the meanest criminals".

In a word the practical precept of the Cameralists was "Organise and yet again Organise". Their whole system of administration was directed towards what Adam Smith called the aim of "national power". As means to this end, the art of government and of fostering commerce became of importance. Thus Justi points to the increasing cost of war (he refers to the Seven Years' War, 1756-63), and adds that a people that wishes to be "militant" must also seek to be rich. But there was no other road to riches than through commerce. Sonnenfels followed up this thought by dwelling on the advantages of a colonial system, whereby the mother State "should have the preference over every other country in

drawing from the colonies those wants [*sic*] which it will either use itself or again export. And in general, whenever a decision must be made between foreigners and the colonists, the State will seek to secure the advantage of the latter"—sentences which connect themselves with certain problems of the present time.

W. R. Scott.

Kant and His Philosophical Revolution ("The World's Epoch Makers"). By Prof. R. M. Wenley, D.Phil., D.Sc., Litt.D., LL.D. Edinburgh: T. & T. Clark, 1910. Pp. vii, 302.

Prof. Wenley has equipped himself for his work by extensive reading, and shows painstaking thoroughness in his treatment of Kant's biographical and literary history. If I remember rightly, Paulsen rejected the evidence in favour of Kant's Scottish parentage. Dr. Wenley hesitates to believe that Hans Kandt, grandfather of the philosopher, was a Scot, but is quite prepared to find that Richard, Han's father, was one of the numerous Scottish emigrants who settled in East Prussia. It is a merit in this book that so much attention has been devoted to Kant's scientific studies, which are not so well known to the general reader. No one can be a constructive, systematic philosopher without a competent knowledge of Science; and if we are sometimes inclined to think that Kant is beating the air with meaningless language, it is good to recall his scientific achievements. But, as Dr. Wenley remarks, the philosophical interest was present to Kant throughout, the limits being hardly defined between Science and Philosophy in his time. Instructed in the doctrines of Rationalism, he was fortunate in having for a master Martin Knutzen, who showed himself capable of being a critic as well as a professed disciple of Wolff. Kant was thus initiated into the real world of Newton, and by his own speculative insight outstripped him in the application of his principles. In his great book, the *Natural History and Theory of the Heavens*, he explains the origin of the entire universe, and not simply the solar system, on mechanical principles.

Dr. Wenley enters with some minuteness into the historical setting of Kant's scientific work. But his style is unhappy, and when he comes to the doctrinal part it becomes still harder to be appreciative. I should not "let the cat out of the bag" in a serious book. But apart from style, there is no real attempt at sympathetic understanding of the author's meaning. I have read the great part of the work twice over to ensure a fair judgment, and though I have read many important books on Kant, I confess that I can hardly understand what Dr. Wenley has written. Were it not for the thoroughness he has shown in preparation, one would be forced to say that he is guilty of mental flippancy. He seems to have stood in his own way by taking too seriously the analytical form of Kant's exposition. Surely it is not correct to say that, in the *Analytic*, Kant assumes "that sense supplies definite objects which, in turn, understanding rationalises into groups". In a note to the first edition Kant explicitly claims superiority over former psychologists, because they believed that sense in its receptivity was able to unify impressions into objects (Hartenstein, iii., p. 579, *Nachträge aus der ersten Ausgabe*). Again, it is true that in the Principles of Pure Understanding, Kant "presents the inexpugnable unity of mind and sense," but I do not see how "the tortuous processes of the Schematism . . . become superfluous" (p. 194). We have only to remember that the proof in the Analogies turns wholly upon time, the all-important space-factor being only covertly acknowledged, and also that the schemata, in Kant's own words, are all of them "in someway relative to time" (Watson, p. 90).

When we put these two facts together, it is hard to see how Schematism disappears. What is Causality but the Schema of the Permanent in Time? And it is quite gratuitous to say that "the original separation between sense and the forms of conception, while it may hold for a *theory* of Knowledge, cannot be predicated of knowledge itself," and that, therefore, Schematism is superfluous (p. 198). It could only be in theory that Kant entertained the distinction, otherwise Knowledge would be impossible, and he should have had to ask the illicit question, Is Knowledge possible at all? Schematism is not nearly so unimportant as Dr. Wenley thinks, and is much more than a contingent psychological element in the theory of knowledge.

It is to be regretted that Dr. Wenley has not used the same care in writing as in preparation. The bibliographies which head the chapters are extremely valuable.

R. A. C. Macmillan.

The "Perceptive Problem" in the Æsthetic Appreciation of Simple Colour-Combinations. By Edward Bullough. [From the Cambridge Psychological Laboratory.]

Object of experiments: (1) To find out to what extent "Perceptive Types" discovered in previous experiments with single colours, are traceable in the appreciation of colour-combinations. The types had been described as (*a*) *Objective:* These subjects characterised colours as "pure," "washy," "unusual," etc. (*b*) *Physiological*—colours described as "cheering," "depressing," "restful," etc. (*c*) *Character Type*—colours "friendly," "morbid," "refined," etc. (*d*) *Associative Type*—colours suggest objects and these associations affect the æsthetic judgment. All these types found among the forty subjects, Physiological and character types being much the most numerous. "Objective" attitude is regarded by author as extra-æsthetic. "Highest" type is the Character, then Physiological, Associative attitude being lowest from æsthetic point of view, though genetically it is a side development from the physiological, which is the "original and fundamental" attitude. Under unfavourable conditions a subject of a given type may revert to the next lower type.

(2) Further object of experiments, to discover criteria of judgments as to *combinations of colours.* The colours were offered in pairs for consideration. The following criteria were discovered, the total number of cases of the use of each criterion being given in brackets:—

1. Conscious Unification [38], and Dissociation [50].
2. Implicit Dissociation.
   - (*a*) Balance of saturation or luminosity [65].
   - (*b*) Balance of physiological effects [182].
   - (*c*) Compensation of physiological effects [156].
   - (*d*) Compensation of character [63].
   - (*e*) Dislike of one colour makes the combination unpleasant [108].
   - (*f*) Liking of one colour makes the combination pleasant [15].
   - (*g*) One colour "spoils" the other [39].
   - (*h*) One colour improves the other [52].
3. Colours are liked singly, but disliked together [29].
4. Colours are disliked singly, but liked together [10].
5. Affinity.
   - (*a*) Presence of a common element [60].
   - (*b*) Harmony of shades of the same tone [113].
6. Consonance and Dissonance [78].

Physiological and Objective Types alone show 2 *a*, *b*, *c*, *e*, *f*, *g*, *h*; 5 *a*, *b*, the last three being shown especially by "Objectives".

Character Type show 1, 2 *d*, and "under unfavourable conditions," 2 *c*. "Material Complications" (association with dresses, drapings, etc.) was less than anticipated, and no more frequent with women than with men.

In a second set of experiments subjects were asked to select suitable combinations of two colours. Act of choice seemed to make same appreciative attitude impossible for some subjects. Results showed that complementary colours were not generally selected for combination.

C. VALENTINE.

Adam Smith and Modern Sociology; a Study of the Methodology of the Social Sciences. By ALBION W. SMALL. Cambridge: University Press. Pp. ix, 247. Price 5s. net.

A marked tendency of recent studies in the history of Economics has been the revival of interest in the work of Adam Smith. This may have been occasioned in part by the discovery of his Glasgow lectures, in part perhaps by the revolt against the dominance of the Classical School. Thus we have Prof. Nicholson returning to Adam Smith in connexion with problems of organisation of the Empire, and Prof. Small in relation to sociology and economics. In the latter work it is urged that "segregated sciences are becoming discredited sciences," and an attempt is made to re-state Adam Smith's standpoint on social welfare as a whole, as a result of which it is contended that modern sociology aims at taking up the larger programme of social analysis and interpretation which was implicit in Adam Smith's moral philosophy. It may well be doubted whether the material adduced is sufficient to justify the conclusion, for instance, about sixteen pages are deemed sufficient to explain Adam Smith's ethical standpoint—surely if the "programme" of modern sociology is implicit in Adam Smith, that "programme" must be meagre if it can be dismissed so briefly. Besides, as yet sociology is far from being sufficiently developed to subsume all the work that has been accomplished by successive generations of economists. The writer of this essay, to some extent, anticipates this objection by dismissing the more exact economics by describing it as "technology," but to call a thing technical too often is a mere confession of impatience. Co-ordination in the social sciences may be desirable, but accuracy is even more important.

This study shows great freshness in the point of view and vigour of characterisation. Thus the classical school is described as "industrial positivism, but social fatalism," "nineteenth century economic theory was at bottom an attempt to discover the principles of honourable prudence, not to codify a policy of predatory greed". On the other hand, expressions such as the following are no doubt forcible, but they either offend in taste or miss the truth by hiding it in a mass of exaggeration —"the *a priori* political philosophy which, from Plato down, imposed upon social theory one of the stupidest *dei ex machina* in the whole Walhalla of superstition, that inflexible monster of pedantic imagination, sovereignty," "the pitiable shallowness of the *laissez faire* theory," "there is no fig-leaf of economic shame discreetly drawn over Smith's admission that all the products of labour belonged to the labourer till private property in land and the accumulation of stock made a new situation".

W. R. SCOTT.

The Fundamental Problem of Metaphysics. By JAMES LINDSAY, D.D. Edinburgh and London: Blackwood, 1910. Pp. xii, 135.

This little book consists of three chapters, dealing respectively with metaphysics as a science, the problem of substance, and the problem of cause.

Dr. Lindsay's learning is the admiration of all readers of his writings, and in this book he has brought together the views of an extraordinary number of authorities, ranging from Heraclitus to McTaggart, and including most of the mediæval thinkers; and these are interspersed with passages of terse and sometimes pregnant criticism. The general result, however, is not quite satisfactory. Dr. Lindsay, in fact, appears to have attempted to cover too much ground; to compress into 120 small pages a general discussion of these topics, together with a summary of the views on substance and causation of the principal ancient and modern philosophers, is no easy task. The style is exceedingly abrupt and at times obscure, and many passages consist of isolated dicta rather than of continuous argument. Nevertheless there is much in the book that is suggestive and illuminating, and the author has the merits of an open mind and of sympathy with many different spheres of thought. His own views will be familiar to readers of his *Studies in European Philosophy*. His general position is that of spiritualistic monism; but he is anxious to preserve the reality of finite personality, and insists that metaphysics must be ultimately ethical in character, while at the same time it must be rigorously scientific in method. The longest and much the best chapter is the last, on the metaphysics of cause, which is notable for the way in which it brings together metaphysical and scientific conceptions. But the book should have been on a larger scale; as it is, the sudden transitions from one writer to another are somewhat bewildering, and many points call for further development.

J. B. Payne.

Experiments on Mental Association in Children. By Robert R. Rusk. Reviews the work of Ziehen and Meumann on similar topic.

The author performed experiments upon twenty-two boys in Cambridge, between seven and a half and fourteen and a half years of age. He tested "Free Associations" with concrete and abstract terms: also "constrained associations"—subject giving subordinate concept, or co-ordinate, cause, part of a given whole, etc. Times taken by a stop-watch. Results contradict statement of Ziehen and Meumann that speed of association increases with age. Order of difficulty, as judged by length of association time, as follows: Causal, longest—then Free Abstracts, Subordination, Superordination, Free Concretes, Co-ordination, Part-whole, Whole-part. More intelligent boys preferred the more difficult series. "Perseverance" of same expression most frequent in younger and less-intelligent subjects. Children were asked to give introspective accounts. Ziehen's assertions as to extraordinary definiteness and vividness of child's imagery confirmed. But no correlation between richness of imagery and intelligence. Marked cases of "Self-projection" occur. Owing to novelty of this in children, special tests were done on children from another school and results confirmed previous experiments. "Self-projection" shown as frequently by the younger boys as by older, one of ten years giving eighty-seven examples out of 110 tests. Thought possible without imagery even in children, and course of imagery may be opposite to that of thought.

C. Valentine.

The Transfer of Improvement in Memory in School-children. By W. H. Winch.

Three series of experiments. First, Standard III. children tested in Rote and Substance memory: divided into two equal groups on basis of

results. One group (B) was then practised in rote memories, and in final substance memory test this group showed improvement of 21 per cent. on their earlier tests, whereas unpractised group (A) only showed gain of 10 per cent.—ascribed to "growth". And this *added* gain of A was about the same as their improvement in rote memory exercises.

In another series of experiments, one small section of a class showed no improvement in Substance tests after practice in rote work. But these also showed deterioration in rote work itself.

In a third school, the practice was given by means of poetry—while the other group did arithmetic. Practised group show improvement of 27 per cent. in substance memory, while other group only show 21 per cent.

This apparent "transfer" of improvement takes place in spite of fact that very low correlations [·2, ·26 and ·37] are shown between the rote and substance memory results.

C. VALENTINE.

Primitive Psycho-therapy and Quackery. By ROBERT MEANS LAWRENCE, M.D. Boston and New York: Houghton, Mifflin Co., 1910. Pp. x, 276. Price $2.00.

The thesis of this book is that the efficiency of many primitive therapeutic methods, and the success of charlatanry, are to be attributed to mental influence, to 'suggestion'. What suggestion is, Dr. Lawrence makes no serious effort to inform us; the unconscious mind and the subjective mind move unquestioned across his pages, and Janet and Münsterberg are bracketed with less reliable authorities. However, he writes sensibly and entertainingly, from a wide range of reading, upon a great variety of subjects: amulets, talismans, relics, phylacteries, incantations, healing-spells, styptic charms, the touch for the king's evil, the virtues of blue glass, metallo-therapy and the influence of the magnet, the healing power of music, and so forth. The book ends with a discussion of quacks and quackery, and an Appendix sketches the life-histories of 'some noted irregular practitioners,' *viz.*, Paracelsus, Cornelius Agrippa, Cardan, Cagliostro, Greatrakes, van Helmont, Fludd, Nostradamus, Lilly and Gassner. There can be no doubt that the work will have a wholesome effect upon the public for whom it is intended.

P. E. WINTER.

VIme Congrès International de Psychologie (Geneva, 2nd-7th August, 1909): Rapports et Comptes Rendus. Published by Ed. Claparède. Geneva: Librairie Kündig, 1910. Price 20 frs. Pp. 877.

The reports and discussions prearranged by the Committee of the Congress form the most important part of this bulky volume. They are the following: A.—The Subconscious. (1) *Max Dessoir.* "Das Unterbewusstsein" (pp. 37-56). [The connexion between mental states, not these themselves, differentiates conscious and subconscious. In the total consciousness of a moment there is a centre and a periphery. Contents of the latter form the subconscious personality when they become independent. The difficulty is to say when a new connexion of states becomes a new personality. In the subconscious state an important general generative motive is the change of general, including visceral, sensitivity. There are many minor motives. Weakening of the dominating centre of personality by any means is also important.] (2) *Pierre Janet.* "Les Problèmes du Subconscient" (pp. 57-70). [Tries by comparison of extremes and intermediaries to show that the subconscious-

ness of the hysterical is only a form of psychasthenic depersonalisation.] (3) *Morton Prince.* "The Subconscious" (pp. 71-97). [The second intelligence declares that it is conscious; we must accept its word, as we accept that of another person. There is, however, question whether the two alternate or are synchronous.]—Discussion. B.—Religious Psychology. (1) *Harald Höffding.* "Problème et Méthode de la Psychologie de la Religion" (pp. 106-117). ["Tant que l'homme est—ou croit être —le maître absolu de son sort et de celui de ses valeurs, il n'aura pas de religion. La condition de la religion est l'expérience d'une limitation et d'une dépendance relativement à un ordre de choses plus vaste que la volonté et des facultés humaines, et le besoin d'assurer, même au delà des limites de notre pouvoir, l'existence et la continuation de ce qui a de la valeur. Les natures actives et capables d'agir sont souvent irréligieuses : tout entières préoccupées de travailler à la conservation de la vie ou à celle du beau, du vrai et du bien, il ne leur reste ni le temps, ni la force de nourir des sentiments et des tendances qui se rapporteraient, non pas aux valeurs elles-mêmes, mais au sort de ces valeurs" (p. 108 f.). The principal points of view to be included in every attempt to characterise a religion are (1) the values or goods man desires to assure or suppose assured, (2) the character and scope of man's comprehension of his natural environment, (3) the national or individual experience of the relation between the supreme goods and the reality of life. The possibility of a precise psychological characterisation of religion arises only when religion itself becomes a problem.] (2) *James H. Leuba.* "Psychologie des Phénomènes Religieux" (pp. 118-137). [Religion is "cette portion de la lutte pour la vie qui se fait avec l'aide de certaines forces de l'ordre spirituel. C'est un des moyens découverts par l'homme pour vivre mieux et plus abondamment; c'est une méthode de vie." The methods of religion are those of science and philosophy.] Not the least interesting part of this symposium is the discussion which followed these papers (pp. 137-182), which lasted for six séances and was entered by thirty-one different persons. C.—Psychologie des Sentiments. (1) *Oswald Külpe.* "Zur Psychologie der Gefühle" (pp. 183-196). [A summary report.]

H. J. Watt.

(To be concluded.)

Received also :—

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VIII.—PHILOSOPHICAL PERIODICALS.

Philosophical Review. Vol. xx., No. 2. **C. M. Bakewell.** 'The Problem of Transcendence.' [Current discussion insists on three things: respect for the facts of finite experience, acceptance of the validity of time, and—what is fundamental—recognition of the transcendent. But can positive significance be attached to the problem of transcendence? Not if we start out from ready-made philosophical distinctions, and assume as transcendent, forthright, the 'world' and the individual lives of our fellows. The objective world is simply my own experience locked fast in the principle of identity, and therein and thereby recognised as literally one with the experience of any other conscious being that can plan and strive; it is thus not something beyond my experience, but an interpretation of that experience. The only real transcendent being is the free inner life of my fellow-men: idealism becomes a sort of monadology, in which the lives of the monads interpenetrate so far that they all possess in their several experiences an identical world, at the same time that they possess private appreciations, purposes and ideals; growth in intelligence, as in civilisation and culture, is marked by the extent to which each individual, each ego or centre of conscious experience, is able to enter into the experience of others precisely as it is for them in their own inner lives.] **E. B. McGilvary.** 'The "Fringe" of William James' Psychology the Basis of Logic.' [We may define idea as an experienced complex made up of content and fringe; the fringe, which is the meaning of the idea, is an experienced relation terminating in a definitely discriminated gap. The missing something to which the meaning points is the object of the idea; the assumption of the existence of its object, beyond the limits of the experience in which the idea exists, is the objective reference of the idea. (The presence of things-meaning, in the absence from present consciousness of things-meant, is accepted from James, as against Dewey.) This assumed existence is a temporal-spatial relatedness; the experience-continuum thus assumes itself to be part of a larger universe (universe of naïve experience) in which the objects that correspond to its ideas exist in definite situations. Now, in course of time, comes the experience of falsity; and thereafter and thereby that of truth as truth. But the proving-false of an idea is possible only because the assumption of an extra-experiential prolongation of intra-experiential time has been realised. So we arrive at the real universe of experience, whose assumption is confirmed by the confirmation or falsification of every specific idea. The acceptance of the truth of this idea of a real universe of experience (without the reservation that every part of it is in *some* experience, or is itself *an* experience, or that the whole is in *one* all-inclusive experience) is realism. James defined truth as an affair of leading, partly because he saw no other escape from mystery, partly because he was temperamentally averse to a predetermination of the future. But there is a non-pragmatistic correspondence, sometimes experienced and sometimes assumed, between ideas and realities, which can be assigned

and described in intelligible terms on the basis of James' own treatment of ideas; and Reid has met the difficulty of predetermination. The doctrine of the fringe is a brilliant and substantial contribution to logic, but James failed as logician to see the significance of his own achievement.] **F. H. Bradley.** 'Faith.' [The general essence of faith appears to be a non-logical overcoming (or prevention) from within of doubt as to an idea. A narrower definition would make faith exist so far as an idea is a principle of action, whether theoretical or practical; but neither in origin nor in result is faith necessarily active. (Religious faith must be exercised in conduct, and the practical exercise of a belief must react on its origin; but we have no right to argue from religious faith to faith at large.) Philosophy must in a sense depend on faith, since we do not rest on a datum, fact or axiom, but rather on a principle of action; and since, further, philosophy cannot justify its principle in detail and throughout. But the precise meaning attached to faith, so long as the word has some definite sense, is not of importance; and the question whether or not philosophy in the end rests on faith is of no consequence.] **F. Thilly.** 'Proceedings of the American Philosophical Association: the Tenth Annual Meeting, Princeton University, 27th to 29th December, 1910.' Reviews of Books. Notices of New Books. Summaries of Articles. Notes.

Psychological Review. Vol. xvii., No. 6. **T. V. Moore.** 'The Influence of Temperature and the Electric Current on the Sensibility of the Skin.' [The limen of duality decreases from the lower temperatures up to about 36° C., and increases as the temperature rises beyond that limit. This change expresses simply the variation in intensity of stimulus due to varying skin-temperature: for (1) at various temperatures strong pressure gives a smaller limen than weak, and (2) the minimal pressure-limen lies between 35° and 38° C. As regards the direct current, Pflüger's Law holds: sensibility is decreased at the anode, increased at the cathode; though with currents too strong or too weak the anodic or cathodic effect, respectively, may prevail. Immediately after faradisation, the limen both for pressure and for pain is raised: "a touch-spot is under these conditions transformed into a pain-spot". The writer explains his results by the law that the cutaneous sensibility is a function of degree of dissociation in the tissues: "the maximum sensibility for touch and the maximum of muscular irritability are both found at the temperature of greatest dissociation"; the diverse functions of muscle, nerve and sense-organ are alike dependent upon the concentration of ions in the tissues.] **W. F. Book.** 'On the Genesis and Development of Conscious Attitudes (*Bewusstseinslagen*).' [Experiments on learning to typewrite yielded introspective data for the conclusion that conscious attitudes are nothing more or less than the developed forms of the representative processes or images, operative as directing forces in the early stages of the writing. They thus stand midway between vivid imaginal processes and such internal stimuli as auto-suggestions, as these stand midway between attitudes and instinctive stimuli. Titchener's recommendation of genetic study is therefore justified.] **K. Dunlap.** 'Reactions to Rhythmic Stimuli, with Attempt to Synchronise.' [Finger-movements were made, so far as possible synchronously with the stimuli, in response to series of sounds and lights, given at various rates from about one-third second to about two and one-half seconds interval; the work was done with attention to stimulus, with attention to movement, and under distraction. Apart from special results, there appeared to be a slight but definite tendency to delay the visual as compared with the auditory reaction. Further publication is promised.]

American Journal of Psychology. Vol. xxii., No. 2. **H. M. Kallen.** 'The Æsthetic Principle in Comedy.' [Review of occasions of laughter, characters of the consciousness of the comic, theories of the comic. Beauty is the relation between mind and a certain environment, when the two are adapted to each other harmoniously, perfectly and immediately; the environment is good in itself, an intrinsic and direct excellence. Comedy is a relation of the same kind; but the environment to which we are at once harmoniously and completely adapted is now itself a disharmony, a mal-adjustment; comedy, in other words, is a relation which converts evil into goodness. This definition brings out the truth of current theories (degradation; c ntrast), and accords with the character of the laughing consciousness (transient; alterative in the sense of restorative, reconstructive).] **L. E. Ordahl.** 'Consciousness in Relation to Learning.' [Report of a series of experiments undertaken to discover the *rôle* of consciousness in simple modes of learning, the influence of distraction on the progress of a habit of whose existence and development one is unconscious, and the influence on learning of unnoticed or minimally conscious aids. The experiments cover a wide range: learning of nonsense syllables, with unnoticed concomitants; comparison of lifted weights (motor *Einstellung*), with and without distraction; throwing at a target; writing in unusual ways (left-hand, mirror script); mental multiplication of large numbers. (1) The unnoticed aids have no effect on learning. (2) In the case of simple muscular co-ordinations, in which consciousness is normally focussed on the end, learning can progress without consciousness either of the end or of the fact that one is learning; attention to the task, however, gives better results than work under distraction. (3) In all learning, there are unconscious as well as conscious factors: the former consist in the fixing of association by practice, and the cropping-up of modifications of behaviour that consciousness may later utilise. The more intellectual and highly conscious the material to be learned, the more direct is the conscious control. Consciousness corrects, eliminating errors; improves on elements unconsciously developed; and organises the whole procedure. Practice assists by focalising common features, and so paving the way to new generalisations; and by mechanising details, and so leaving attention free for further difficulties.] **H. M. Clarke.** 'Conscious Attitudes.' [Report of experiments undertaken with a view to the analysis of conscious attitudes (*Bewusstseinslagen*): reading of blind script; introspection of meaning of words, sentences and paragraphs; introspection of answers to questions requiring and not requiring 'thought'; completion or recognition of verbal and other relations. (1) Incidental analyses are frequent: thus, in the work with point-letters, over 400 attitudes are specifically reported, and 300 of these are more or less completely analysed. (2) When the attitudes occur often enough for generalisation, there is marked agreement between different observers, and for the same observers at different times: the instances given are surprise, seeking (search), and doubt (hesitation, uncertainty), for all of which typical 'patterns' of consciousness may be made out. (3) For the same observer, there is a graded series of steps from vivid and explicit imagery to the vague and condensed consciousness which has been named 'imageless': the instances given are the consciousness of task (*Aufgabe*), recognition, understanding, and the 'feeling' of relation. In sum, the attitudes may be resolved into sensations, images and feelings, or traced genetically to such analysable complexes.] **C. E. Ferree, R. Collins.** 'An Experimental Demonstration of the Binaural Ratio as a Factor in Auditory Localisation.' [(1) Observers having a natural difference in the sensitivity of the two ears show a constant tendency to displace the sound in the direction of the better ear; other observers show

no tendency to right or left displacement. (2) Changes in the ratio of sensitivity produced by plugging an ear are followed by corresponding displacements of the sound in the direction of the better ear. Artificial changes are more effective than natural differences of the same order of magnitude; doubtless because the latter have been empirically corrected. (3) A natural right or left tendency may be corrected by changing the ratio of sensitivity of the ears; objectively, the correction is always an under-compensation. (4) The binaural ratio acts both as difference in intensity and as change in timbre, but predominantly as difference in intensity. (5) Individual preferences of localisation were neither capricious nor variable over a period of seven months.] **F. M. Urban.** 'A Reply to Professor Safford.' Book Reviews. Book Notes.

Archives de Psychologie. Tome x., Nos. 2-3. **A. Michotte** et **E. Prüm.** 'Étude expérimentale sur le choix volontaire et ses antecédents immédiats.' [A contribution to the descriptive psychology of the will, which at the same time throws light upon the problems of causality, *i.e.*, upon motivation (connexion of motives and end) and determination (reference of other factors, *e.g.*, of moment of realisation, to their conditions). The method is that of reaction; the observer is shown two numbers, which permit of various mathematical operations, and is instructed to make a choice 'for serious reasons' between, say, multiplication and division; having chosen, he is to react. All observers agree that the experiences are 'voluntary,' akin to the will-consciousness of everyday life, and markedly different from simple judgment or apprehension and from automatic choice. There is no consciousness of non-realisation of the choice (such a consciousness renders true choice impossible); on the contrary, the movement of reaction symbolises the realisation, introduces a fictitious realisation of the choice.—Part i. (qualitative data) divides into two sections, entitled Determination and Motivation. The first describes the perception of stimulus and the consciousness of instruction; the course of discussion of motives; the immediate preparation for choice; and choice itself. The period of preparation contains, on its subjective side, the consciousnesses of doubt (hesitation, oscillation) and of waiting (suspense), together with a general muscular tension (experienced chiefly in the reacting finger and the chest; there is change of respiration), and, on its objective side, with more or less frequency, a representation of one alternative (in interrogative form) or of both alternatives (verbal-imaginal or intentional), a consciousness of instructions (intentional), and various awarenesses or judgments bearing upon the motivation. Characteristic of the final period, of choice itself, is the 'action-consciousness,' the consciousness of doing, acting, designating, turning toward, etc. This is not a content, alongside of other contents; it is a mode or character, involving a substrate which it qualifies. It is the only observed form of the intervention of the phenomenal self in the experiences under discussion. Finally, it is the distinguishing mark which differentiates voluntary from all other forms of action. A review of current psychologies shows that it is clearly recognised by Lipps (whom none of the observers had read), and has much in common with Wundt's *Gefühl der Entscheidung*. The second section, on Motivation, discusses the motives from the point of view of content and of form. The objective motives are of two kinds, intrinsic and extrinsic. The first group includes representability and ease-difficulty (for this latter, no less than ten grounds are distinguished); the second, consciousness of the rarity of choice of some operation, the idea of time, and the implicit consciousness of objectivity. The subjective motives are active tendency, passive impulsion, and repulsion. As regards the theory of motivation (intellectual *v.* emotional theories) one

must proceed with caution. The majority of motives in the present investigation are judgments of value, whose predicate is not the value itself, but its ground ('this is easy'); sometimes, a motive originally intellectual will take on affective colouring; if agreeable and disagreeable feelings are often concerned in the motive value of a concept, they are still no more than contributing factors.—Part ii. brings us to a quantitative consideration of the data; its two sections are entitled Discussion of Motives, and Choice. Here we learn, *e.g.*, that the two principal observers, though their manner of discussing the alternatives is typically different, have approximately the same average reaction-time; we are given the percentages, for the various arithmetical operations, of the two modes of preference, the spontaneous and the analytical (the latter depending on an analysis of the stimulus from the point of view of a particular operation); etc., etc.—A *Note complémentaire*, by A. Michotte, compares the results of the present study with those of Ach and Bovet. Agreeing with Bovet on many important points, the writer rejects his identification of the consciousness that 'one must' with the consciousness of passivity, and of this, again, with the consciousness of receptivity, inertia, automatism. As regards Ach, he finds that the 'action-consciousness' is clearly identical with Ach's 'aktuelle Betätigung,' 'aktuelles Moment,' 'das Vornehmen selbst'. There is, however, a difference (due to experimental conditions) in that Ach's 'gegenständliches Moment' does not appear. This objective moment the writer regards as a pure volition (*vouloir pur, disjoint*), subject, as voluntary acts are not, to the 'determining tendencies'.]

Revue de Philosophie. 1er Février, 1911. **A. Humbert.** 'Structural Evolution of Language according to Wilhelm Wundt.' [Evolution applied to parts of speech.] **A. Gemelli.** 'The Notion of Species and Evolutionist Theories.' [Discoveries of Vries and Nilsson. These 'recent studies on the limits of variability have by this time convinced many naturalists that, while admitting the principle of evolution of living forms, we must still regard species as an entity, objectively definable and constant, notwithstanding the variation of the individuals that constitute it within a given time'.] **A. Gomez Jiquierdo.** 'The Philosophy of Balmes.' ['According to Balmes, the only element of the external world that we objectivise by means of representation, and of which the reality is independent of the subject, is extension and its modifications.'] **E. Peillaube.** 'Formation of Abstract and General Ideas.' ['Peripatetic abstraction considers a quality, not independently of another quality, but independently of its individual and concrete characteristics.']

Zeitschrift für Psychologie. Bd. lvii., Heft 3. **R. Mueller-Freienfels.** 'Zur Psychologie der Erregungs- und Rauschzustände.' [The normal flow of consciousness is interrupted, from time to time, by states of excitement or intoxication, which we ordinarily refer to, in loose terms, as states of enhancement or intensification of consciousness. These states deserve a closer study. (1) They show marked characteristics on the affective side, ranging from a pleasurable mood to a full-fledged, pleasurable or unpleasurable, seizure of emotion (unpleasurable, —for in accesses of rage, and in certain phases of imaginative fear, there is definite enhancement of the total vital feeling), with accompanying changes of respiration and circulation. Many instances are given, and modes of induction are briefly touched upon. (2) On the intellectual side, these states are distinguished by increased clearness of ideas (it is doubtful whether they involve any change in perception), by a quick-

ened tempo of the conscious life (though oftentimes a summarising process, with suppression of the transitive states, may simulate richer and fuller plays of association), and at their best by an enhancement of attention. They are of two kinds: æsthetic, existing for their own sake, and teleological, aiming at some extrinsic end. (3) The states in question are produced by works of art: rhythm, and music in general, act chiefly upon the feelings; poetry makes a mixed appeal, to imagination and to feeling; the effect of painting is mainly intellectual (a single impressive idea replaces the discursive imagination of poetry), though the affective influence is not lacking. Moreover, the state of artistic creation is itself closely akin to the states under discussion; we hear of an hallucinatory clearness of ideas, of a wealth of imaginative suggestion; the difference lies, not in contents, but in predetermination of consciousness.] Literaturbericht. Die Zeitschrift für Sinnesphysiologie.—Bd. lvii., Heft 4. **O. Selz.** 'Die experimentelle Untersuchung des Willensaktes.' [Critical review of Ach's *Ueber den Willensakt und das Temperament.*] **A. Guttmann.** 'Anomale Nachbilder.' [Examination of the after-images of spectral lights, in the case of members of the writer's 'anomalous' class, showed that, while direct vision is trichromatic, the after-image reaction is strictly dichromatic. No explanation of this result is attempted. The writer insists (1) that the use of the spectrum is necessary, since a test with coloured papers gave after-images in the sense of trichromatism, and (2) that no reliance can be placed upon verbal reports, since marked differences of colour-nomenclature were proved by the test of colour-equations to be meaningless.] **F. Hillebrand.** 'Zur Frage der monokularen Lokalisationsdifferenz; Schlusswort gegen St. Witasek.' [Repeats and maintains the contention that Witasek's results were due to heterophoria.] Literaturbericht.

Archiv f. d. gesamte Psychologie. Bd. xvii., Heft 1 und 2. **L. von Kar pinska.** 'Experimentelle Beiträge zur Analyse der Tiefenwahrnehmung.' [The object of the study is to obtain an introspective analysis of the visual perception of the third spatial dimension. After a review of work done on stereoscopy with momentary illumination, the writer reports experiments, in which stereograms or identical figures were exposed for some 1/15 sec. (1) There is first a stage of blank or shock; then the image is seen and judged as flat; then the flat image shows unrest, and the observer infers its tridimensionality; then the image makes a direct impression of depth, but the observer cannot state the direction of relief; finally there is a determinate apprehension of tridimensionality, either pictorial (as of a scene in perspective) or objective (as of a solid object in space). (2) The conscious factors or moments in the apprehension are: attentive emphasis of some part or feature, the noticing of the parts in succession, overestimation of the distance in depth, definite direction of eye movement over the image, unity of the image (subordination of parts; material consistence; aesthetic impression). (3) The condition of primary importance is the associative factor, the mental predisposition of the observer; retinal disparity is a secondary and empirical criterion of depth, which needs a conscious working-over, if the perception of depth is to result. (4) The retinal disparity, which leads by way of association to the depth-perception, must be regarded as consciously effective, only that its conscious aspect is ordinarily overlooked, does not come to clear recognition within the total contents of consciousness. (5) Monocular experiments, made with the verant under the same conditions of exposure, gave a clear and immediate perception of depth. Here is further evidence that retinal disparity is simply an empirical factor in that percep-

tion.] **G. Grafin von Wartensleben.** 'Beiträge zur Psychologie des Übersetzens.' [Introspective analyses of the experience of translating Latin words and phrases into German. Translation may be direct, or mediated. If the latter, the interpolated processes may be ideas, feelings or conscious attitudes. Auditory ideas and motor reactions were frequent; visual imagery rare. The commonest attitudes were those of meaning and of familiarity; they might appear in connexion with ideas, or alone; and the attitude of meaning might attach to word, word-group, or entire sentence, the more complex not necessarily implying the presence of the more simple. With increasing frequency of the associative connexion, the ideas decreased, the attitudes somewhat increased in number.] Literaturbericht.—Bd. xvii., Heft 3 und 4. **C. Knors.** 'Experimentelle Untersuchungen über den Lernprozess.' [Experiments with non-sense-syllables, two-syllable words and 3-place numbers were made upon adults and children (eleven to thirteen years) by three methods: the series was recited, as accurately as might be, after each separate reading; retention was tested, after each separate reading, by the method of right associates; and the series was read through, again and again, till the observer thought that he could recite it correctly. The first set of experiments showed, in general, that memory rises to its task; and, in particular, that the first few repetitions are the most effective, the first being by far the most important, and the second and third usually following in that order. The second set proved to be more difficult for the adults, but easier for the children; the first repetitions are again the most effective, but the very first is of less importance than before, being often equalled by the second. A comparison of these results with those obtained by the regular method brought out individual differences of striking character. The writer proceeds to a discussion of the modes of learning adopted by his observers, and to an analysis of their mistakes, and ends with a list of the advantages that recitation possesses over reading; the chief is that attention may be directed, voluntarily, to the weak places of the series.] **E. Tomor.** 'Die Rolle der Muskeln beim Denken: eine Mitteilung.' [A syllable is thought, while test is made of muscular movements of larynx, tongue, lips and chest. It is found that thought is always accompanied by movement; breathing, *e.g.* shallows, and the time-ratio of inspiration to expiration changes from 5 : 6 to approximately 1 : 4. Mental fatigue is accordingly a matter, not of the nerves, but of the muscles.] **F. M. Urban.** 'Über die Methode der mehrfachen Fälle'. [The method of ideal ranges may be considered a psychophysical measurement method in the strict sense; its results are uniformly related to those of the method of just noticeable differences. As between the error and the graduation methods, we must say that with a large amount of experimental material it can be positively stated whether or not the experimental conditions have varied, whereas with a small amount it is necessary to be content with the assumption that no change has occurred within the brief time covered.] Literaturbericht. **A. Vierkandt.** 'Literaturbericht zur Kultur- und Gesellschaftslehre für die Jahre 1907 und 1908.' **E. Hirt.** 'Psychologisches in der psychiatrischen Literatur der letzten Jahre: Fortsetzung.' Einzelbesprechungen. [Becher on Semon, *Die mnemischen Empfindungen;* Dannenberger on Ellis, *Mann und Weib.*] Referate. **Pancon-Celli-Calzia.** 'Erwiderung.' [Against Poirot.]—Bd. xviii., Heft 1. **E. Landmann-Kalischer.** 'Philosophie der Werte.' [The paper opens with a criticism of Münsterberg's *Philosophie der Werte;* the writer disagrees with the fundamental doctrine that the validity of all values depends upon their constitutive meaning, and maintains, as against it, that we ascribe value to objects on the ground of the feelings that they arouse in

us, precisely as we ascribe colour to objects on the ground of sensations. But how, on this view, can we account for the fact that our judgments of value claim universal validity and in fact attain only temporal and individual recognition? This question the paper undertakes to answer. A review of the psychology of feeling shows that no one of the alleged differences between feeling and sensation really obtains; affective judgment and sensory judgment are on the same level. Judgments of value may then be objectified; we may seek a definition of value that shall not involve the concept of value, and we shall find it by way of an objective determination of the adequate stimuli to the judgment of value; knowledge of the stimuli to feeling, as accurate as our knowledge of the stimuli to sensation, will furnish the key to individual differences and to constant errors. The claim of the judgment of value to universal validity is thus precisely that of any judgment of perception which aims to be more than a mere subjective impression. Logic, ethics, æsthetics are, very simply, the sciences of the true, the good, the beautiful; they must start out from the fact of value, as their datum, and their problem is to give it a precise and objective definition. A brief review of the status of logic, ethics, æsthetics and dogmatic theology indicates how far, in the writer's opinion, this aim has been attained. The essay then passes to a consideration of the place of values in the world of reality: feeling, it points out, is two-faced, looks towards perception and towards will; and the peculiarity of values is that they condition not only our human view of things as they are, but also the future shaping of things, so far as that lies in human power. Finally, the author insists that, while logical value has a wider sphere of application than any other kind of value, nevertheless all values are independent; this conclusion follows, indeed, from the original thesis that they are data, qualities of things.] **W. Schmied-Kowarzik.** 'Raumanschauung und Zeit anschauung.' [An attempt to refer space and time to their right position within a psychological classification; suggested by the schema of Jodl's psychology. Current theory makes space and time moments or attributes of simple conscious contents. But space is a continuum, and psychological space is a simple continuous content; and phenomenal time is also a simple content, a continuous, one-dimensional, unequivocal manifold. The writer comes to a dual division of the subject-matter of psychology into positive contents and dependent contents. The former heading covers intensive qualities (actual experiences, or ideas, of sensory, affective and appetitive contents) and continua (the *Anschauungen* of space and time); the latter covers judgments, and a new category of intuitions (*Intuitionen*), which will form the subject of a later paper.] Literaturbericht. Einzelbesprechung. [Stählin on Starbuck, *Religionspsychologie*.] Referate.

Zeitschrift für Philosophie und Philosophische Kritik. Band 141, Heft 2. **Georg Wernick.** 'Einfindung Wahrnehmung und Vorstellung.' **Adolf Reinach.** 'Kants Auffassung des Humeschen Problems.' Rezensionen, etc.

Rivista di Filosofia. Anno iii., Fasc. 1, January-March, 1911. **C. Ranzoli.** 'Il Caso.' [The writer fixes on unpredictableness as the most characteristic note of chance occurrences. But this incalculable nature of theirs, so far from negating the law of universal causation, is a direct consequence of its dominion. For if in the vast majority of cases we cannot foresee events, that is a consequence of the complexity and subtlety of the intersecting causal series whence they result. Hence it is unphilosophical to deny the determination of human actions on the ground that they cannot be predicted; and equally unphilosophical to assert

the contingency of physical phenomena by way of providing a broader inductive basis for the affirmation of human freedom. In this analysis, Ranzoli seems to forget that in affirming the casualness of an event what we deny is not that it was caused in general but that it was caused by the event immediately contiguous with it in space, time or imagination.] **Georgio del Vecchio.** 'Sulla positività come carattere del diritto.' [An inaugural address delivered on assuming the professorship of jurisprudence at Bologna. According to Del Vecchio it is an error to deny the existence of Natural Law as an ideal of jurisprudence, and an error also to contrast the immutability of absolute morality with the contingency of legislative enactments. For morality also is subject to conditions of relativity and variation; while positive law, to be accepted and obeyed, needs the approval of the people on whom it is imposed; nor can it be applied in any particular instance by the judge without an appeal to principles of universal validity.] **Corradino Mineo.** 'Logica e Matematica.' [This article raises the question whether the new logico-mathematical theories of Peano and Mr. Bertrand Russell furnish a logical confutation of Kant. The answer is that, so far, by their admission of indemonstrable principles they go to confirm Kant, whose logical agnosticism can only be overcome by the researches of scientific psychology.] **Michele Losacco.** 'La filosofia naturale dello Schelling e le nuove correnti del pensiero.' [An attempt to connect the scientific ideas of Herbert Spencer, Bergson, Ostwald and other modern thinkers with the "Naturphilosophie" of Schelling. Losacco, however, fails to notice Schelling's debt to the electro-chemistry of his own time.] **P. Carabellese.** 'Intuito e sintesi primitiva in A. Rosmini.' [A defence of the writer's interpretation of Rosmini against the criticisms of Gentile.] **C. Tommaso Aragona.** 'Del fatto educativo.' [Notwithstanding the professed realism of this writer, the extreme abstractness of his method, and his large assumptions of native excellence on the side of the pupil and of consummate skill on the side of the teacher are such as to render his painstaking study nearly valueless for practical purposes.] **G. Mazzalorso.** 'La guerra, la pace, e la filosofia.' [A somewhat discursive and inconclusive study, but interesting for the writer's admission that he for his part would prefer a safer and stronger if more modest and less showy Italy.] **Rafaeli Giacomelli.** 'Un teologo e apologeta riformatore della fisica e dell' astronomia.' [Rebukes the rash ignorance of a certain Father Pécsi, professor in a Hungarian seminary, who arguing on behalf of Theism, rejects the First Law of Motion with the authorship of which he credits—or rather discredits—Newton, being unaware that it originated with Galileo.]

IX.—NOTE.

LITERARY NOTE.

Professor Baldwin, editor of the *Dictionary of Philosophy and Psychology* (Macmillans), states, in answer to inquiries, that the "new edition, corrected," recently put upon the market, is not a revised edition. The new edition was printed without consulting him, the changes being reported to him as "certain corrections received by the Oxford Press (the printers) after the first edition was printed": that is, certain *corrigenda* have been incorporated. He himself deprecates the use of the term "new edition" for a mere reprint, especially if the date of issue, which is generally taken to be the date of original publication, is changed on the title-page.

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